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## Journal of the Society of Arts.

FRIDAY, JULY 1, 1859.

## EIGHTH ANNUAL CONFERENCE.

The Eighth Annual Conference between representatives from the Institutions in Union and the Council of the Society, was held at the Society's House, on Tuesday, the 28th June, at 10 o'clock a.m. Mr. C. Wentworth Dilke, Chairman of Council, presided.

The following is a list of the Institutions and Local Boards of Examiners represented at the Conference, with the names of their respective representatives:—

Aberdeen, Mechanics' Institution	Mr. Alexander Bain.
Allenheads Library & News Rooms	Mr. Thos. Sopwith, jun.
Ashford, S.E.R. Mechanics' Institute and Local Board	Rev. J. P. Alcock.
Barnet Institute	Mr. Stephen Baldock.
Basingstoke, Mechanics' Institution	Mr. G. Selater Booth, M.P., and Mr. Wyndham S. Portal
Battle, Mechanics' Institution	Mr. Horace Martin.
Belfast, People's Reading Rooms	Sir H. M'Calmont Cairns, M.P.
Bexley Heath, Useful Knowledge Society	Mr. Flaxman Spurrell
Birmingham, Midland Institute	Mr. Arthur Ryland.
" Messrs. Chance's Library and Reading Room	Mr. W. Mathews, jun., M.A.
Blackburn, Literary, Scientific, and Mechanics' Institution and Local Board	Mr. F. Talbot.
Brighton, Mechanics' Institution	Mr. Robt. C. Radcliffe.
" Sussex Local Board	Rev. A. J. Ross.
Bristol Athenæum	Mr. Barclay Phillips.
Bury St. Edmund's, Athenæum	Rev. Canon Girdlestone.
Chelmsford, Literary and Scientific Institution	Rev. J. B. P. Dennis.
Chichester Literary Society and Mechanics' Institute	Mr. W. W. Duffield.
Darlington Mechanics' Institute	Mr. H. W. Freeland, M.P.
Devizes Literary and Scientific Institution	Mr. F. Mewburn, jun.
Glasgow, Institution and Local Board	Mr. S. Watson Taylor.
Gosport and Alverstoke, Literary and Scientific Institution	Mr. Thomas Morrison, A.M.
Halifax Mechanics' Institute	Mr. Walter O. Field.
" Working Man's College	Mr. Frank Crossley, M.P.
Hartlepool, Literary and Mechanics' Institute	Mr. George Gibb.
Hastings, Mechanics' Institution	Mr. Christopher Salmon.
Hereford Permanent Library	Mr. John Banks.
Highgate, Literary Institution	Mr. William Aston.
Huntingdon, Literary Institution	Mr. James Yates and Mr. W. P. Bodkin.
Ipswich, Mechanics' Institution	Mr. Robert Honey.
Kingston-on-Thames, Mechanics' Institution	Mr. Thomas S. Gowing.
Leeds, Mechanics' Institution	Mr. John M. Clabon.
	Mr. James Hole.

Leeds, Young Men's Christian Institution	Rev. Clement Bailhache.
Leeds, Yorkshire Union	Mr. Barnett Blake.
Lewes, Mechanics' Institution	Mr. Henry Brown.
Liverpool, Collegiate Institution	Rev. J. S. Howson.
" Institute	Mr. Astrup Cariss.
Lockwood, Mechanics' Institute	Mr. John Symonds.
London, Chelsea Athenæum	Mr. Robert Hunt, F.R.S.
" Clerkenwell Working Men's Institution	Mr. Charles Binyon.
" Crosby Hall Evening Classes for Young Men Local Board	Rev. W. Lusignan.
" Mechanics' Institution	Mr. S. Vallentine & Mr. T. J. Pearsall.
" Local Board	Mr. T. A. Reed.
" Marylebone Literary and Scientific Institution	Mr. Christopher Eales.
" Royal Polytechnic Evening Classes	Rev. J. B. Owen and Mr. J. C. Buckmaster
" St. Bartholomew's Literary Institute	Rev. John Green, M.A.
" St. Mary's, Islington, Working Men's Institute	Mr. John Lee & Mr. D. F. Wilson, M.A.
" Tailors' Labour Agency	
" Literary Institute	Mr. Robert Edwards.
" Walworth Literary and Scientific Institution	Mr. J. S. Noldwritt.
Morpeth, Mechanics' Institution	Mr. Soulsby.
Northallerton, Institute	Mr. W. B. Wrightson, M.P.
Paisley, Artizan's Institution and Local Board	Mr. Robert Wilson.
Peterborough, Mechanics' Institute	Mr. J. Whitwell.
Portsmouth and Portsea, Literary and Philosophical Society	Mr. W. Hamilton, R.N.
Richmond, Parochial Literary and Local Board	Dr. Ellis.
Sheffield, People's College	Rev. W. Bashall.
Stratford, Eastern Counties Railway and Stratford Mechanics' Institution	Mr. T. Rowbotham.
Wallingford, Mechanics' Institution	Mr. T. G. Tonge.
Warminster, Athenæum	Mr. Robert Payne.
Waterford, Mechanics' Scientific Institution	Mr. W. H. Carson & Rev. H. May Gunn.
Whitby, Institute	Mr. John A. Blake, M.P.
Wigan, Mechanics' Institution	Mr. Edwin Cockburn.
Wilton, Literary Institute	Mr. Henry Woods, M.P.
Winchester, Mechanics' Institution	Mr. J. E. Nightingale.
	Mr. Hugh Wyeth.

The SECRETARY read the following

## REPORT

TO THE COUNCIL OF THE SOCIETY FOR THE ENCOURAGEMENT OF ARTS, MANUFACTURES, AND COMMERCE.

GENTLEMEN,—In my report which was laid before the Conference last year, the results of the Examinations then held were detailed, with full explanations of the system which the Council had found it necessary to adopt, in order that all the Institutions in the Union throughout the whole of the United Kingdom might on equal terms enjoy the important benefit of Examination. It is, therefore, unnecessary on the present occasion to enter into any further explanation of that which is, no doubt, familiar to all present at the Conference. Before, however,

I give an account of the business of the year which has just closed, I must record, in connection with last year's Examination, that four of the successful Candidates have since obtained Government appointments on nominations which had been kindly placed at the disposal of the Council of the Society of Arts by Lord Derby. Mr. Thomas Ross Howard and Mr. George Edward Skinner obtained the first and third places respectively in a competition for Clerkships in the Customs; and Mr. George Harrison and Mr. George Best were placed first and second respectively in a similar competition for Supernumerary Surveyorships of Taxes.

In making these nominations, the Council were necessarily restricted in the selection by the Government regulations as to the age of the Candidates, and the branches of knowledge with which they were required to be acquainted.

The system of Examinations, carried out last year, having been found to work perfectly well, has been again adopted this year; and the Examinations, conducted upon it with such slight modifications in some of the working details as experience had shown to be necessary, have just been completed.

In the Society's *Journal* for the 10th instant, the results, so far as they relate to the award of Certificates and Prizes to the Candidates, have been published, and a copy has been sent to each Candidate.

In the *Journal* for the 17th instant, the awards of prizes given by the Council to Local Boards and to Institutions were announced. It will be remembered that one of the conditions on which an Institution was to become entitled to a prize, was not merely that its Candidate should have obtained the first prize in any subject, but that the Institution should have afforded to the Candidate special instruction in that subject. Hence the difference in the number of the Candidates obtaining first prizes and of the Institutions getting prizes in respect of these Candidates. It is to be hoped that Institutions may be enabled in future years to give more systematic class instruction to their members. Had all the Candidates who received first-class prizes received at their Institutions systematic instruction in their several subjects, the Institutions would have carried off sixteen prizes (=£80) in lieu of only seven prizes (=£35).

There has been this year a large increase in the number of Candidates examined at the final examinations, viz., 480, as compared with 288 last year, i.e. an increase of exactly two-thirds on the last year; and a larger number of Local Boards in operation, namely, 54 in the place of 40 last year. The total number of Boards which have been formed since they were proposed by the Council in the autumn of 1857 is 80, of which 19 were newly formed this year. Scotland

and Ireland, for the first time, have now taken part in these Examinations. Four Boards were formed in Scotland and two in Ireland, and Candidates from each have attended the Final Examinations.

The number of Candidates who attended the previous Examinations this year has been 641; of these, 544 were returned by the Local Boards as qualified for the Final Examination; but of them only 480 attended it. 368 Candidates obtained Certificates, whilst 112 were unsuccessful. The number of worked papers which came under the consideration of the Examiners was 766, and on these were awarded 540 Certificates, divided thus:—78 first class, 154 second class, and 308 third class. In comparing the numbers attending the Examinations this year with those of last year, it will be seen that, while there is a large increase, viz., 480, as compared with 288 in the number actually attending the Final Examinations, yet, looking at the table appended to this report, the number attending the Previous Examinations appears to be considerably less. With reference to this point, I may observe, in explanation of that which might otherwise appear erroneous, that last year one of the largest Unions included all the Candidates examined at its Local Examination in the number returned as having attended the Previous Examination of the Society of Arts, and thus a very large number were included in it who had no intention, and little qualification, to proceed afterwards to the Society's Final Examination. Again, in another case last year in returning the number of those qualified to enter the Society's Final Examination, a considerable number were included who did not intend, or who were not able, owing to local circumstances, to attend it. Hence the numbers last year were unduly large. This has not occurred this year; and the important fact remains, that there has been an increase in the numbers actually attending the Final Examinations of nearly seventy per cent. over those of last year. In looking, too, at this increase, it must be remembered that Drawing has been omitted from this year's Examination, whilst last year there were 37 Candidates in Freehand Drawing and 34 in Mechanical Drawing. It is true that Music has been added, but this has produced 12 Candidates only.

Such have been the results of the present year, and certainly the Society may be congratulated on the great success which has attended the efforts of the Council in organising these Examinations. It is gratifying to note the careful attention which the Local Boards have given to the conduct of the Examinations, and the strictness with which they applied themselves to carry out the rules which the So-

ciety has been obliged to lay down for their guidance; indeed the Institutions owe to the gentlemen who have undertaken, gratuitously, the arduous and responsible duty of acting on the Local Boards, a deep debt of gratitude.

In consequence of the desire expressed at the last Conference that, as far as possible, there should be but one Local Board for each district, the Council endeavoured to promote the union of Boards in places where more than one existed. They have, however, been unable to effect this object; indeed, the convenience or inconvenience of several Boards in one place is a matter which, after all, must depend on local circumstances, rather than on any rigid rule to be laid down by a central authority acting at a distance from the locality.

Whilst speaking on the subject of the action of the Local Boards, I may be permitted to point out that, in some instances in the Previous Examinations, they appear to have been hardly sufficiently careful to test how far the qualifications of their Candidates fitted them for the Final Examinations. This, however, in no way affects the value of the Certificates awarded by the Society's Examiners; the only results have been the addition of unnecessary labour to those gentlemen, and disappointment to the Candidates. This subject is worthy the attention of the Conference.

The occupations, or intended occupations, of the 368 successful Candidates are as follows:—

Architects .....	5
Artist .....	1
Assistant Foreman.....	1
Assistant to Chemical Teacher .....	1
Assistant to Observatory Kew .....	1
Assistant Surveyor of Taxes .....	1
Blacksmith .....	1
Brass Founders .....	2
Boot and Shoemakers...	3
Book-keepers .....	13
Booksellers & Stationers	4
Brushmaker .....	1
Builder .....	1
Butchers .....	2
Butler .....	1
Carpenters and Joiners.	2
Cabinet-makers .....	3
Carcass Butcher & Common Salesman.....	1
Cardwriter .....	1
Cashiers .....	3
Chemists and Druggists	8
Civil Engineers .....	3
Clerks .....	113
Cloth-drawer .....	1
Cloth-dresser .....	1
Colourmaker .....	1
Colonial Merchant.....	1
Carpet-weaver .....	1
Commission Merchant...	1
Compositors .....	3
Cutler .....	1
Customs and Revenue Clerks .....	4
Clerk of Works.....	1
Dispenser .....	1
Drapers and assistants.	7
Engineers.....	18
Engraver .....	1
Engine-fitter .....	1
Edgetool-striker .....	1
Engineer's Clerk.....	1
File-cutter .....	1
File Manufacturer .....	1
Gardeners.....	2
Gentleman's Servant...	1
Government Clerk .....	1
Governess.....	1
Grocers and assistants...	5
Grocer and Druggist...	1
Hatter .....	1
Hosiery .....	3
House Agent .....	1
Ironmongers .....	2
Ironmoulder.....	1
Jeweller .....	1
Japanner .....	1
Labourer .....	1
Law Clerks.....	13
Lithographer .....	1
Manufacturer .....	1
Mason .....	1
Mechanics.....	6
Mechanical Draughtsman .....	1
Machine-maker .....	1
Millwright .....	1

Mining Engineer.....	1
Missionary .....	1
Oilmen .....	2
Optician .....	1
Organist .....	1
Overlooker .....	1
Penblade-grinder .....	1
Pattern-drawer .....	1
Pattern-makers .....	2
Porters .....	2
Printer .....	1
Planemaker .....	1
Plasterer .....	1
Presser and Stamper...	1
Post-office Clerk.....	1
Railway Clerks .....	4
Reader for the Press...	1
Royal Engineer .....	1
Saddler .....	1
Salesmen (common and others) .....	4
Schoolmasters .....	3
Schoolmaster (military)	1
Sailmaker.....	1
Slate Quarryman.....	1
Shipbroker .....	1
Shipwrights .....	2
Slubber .....	1
Surveyors and Clerks...	6
Stover .....	1
Stockkeeper .....	1
Staghorn-cutter .....	1
Tailor .....	1
Timber Merchant .....	1
Telegraph Clerk.....	1
Teachers, Ushers, &c...	8
Warehousemen .....	16
Wastedealer .....	1
Watchmakers .....	3
Weaver.....	1
Wheelwright .....	1
Wireworker .....	1
Woollen-spinner .....	1
Woolsorters .....	6
Yarnsinger .....	1
Returned of no occupation .....	12

In the Appendix to this Report will be found various observations made by the Examiners, which, besides being interesting to the Candidates of the present year, will be found to contain valuable suggestions for the guidance of those proposing to undergo the Examination in future years. Tabular statements of the results of the Examinations are also given.

The wish expressed at the last Conference, that a new edition of the List of Lecturers should be prepared during the month of May, has been complied with, and a copy has been sent to each Institution.

During the year the Institutions have made very extensive use of the opportunity afforded by the Society for obtaining books at the reduction of 27½ per cent. discount on the published prices, and it seems evident that the value of this important privilege is becoming more and more appreciated.

The Society's itinerating collection of photographs, chromo-lithographs, &c., has received considerable additions during the past year, and is still in request among the Institutions.

It will be remembered that a Committee of the House of Commons last year, appointed to investigate the general question of Exemption from Rates, reported in favour of the repeal of all such exemptions, with very few exceptions, such as Churches and certain buildings actually belonging to the public; and this Session a Bill was brought into Parliament by the Government for the purpose of carrying the Committee's recommendation into effect. At the request of the Institutions in Union, the Council presented a petition to the House of Commons praying, on behalf of the Institutions, that any Bill which was passed into a law should not deprive them of their existing right to exemption. The Institutions themselves also presented numerous petitions to the

House of Commons; and other bodies throughout the kingdom, interested in the question, having expressed themselves strongly against the Bill, the Minister of the day was compelled to yield, and the Bill was not proceeded with.

At the last Conference a resolution was passed in favour of opening the National Museums and Galleries of Art in the evening. The Council of this Society, heartily concurring in the views expressed by the Institutions, have been in correspondence with the Trustees of the National Gallery, in reference to the new galleries about to be opened for the Vernon and Turner Collections; copies of this correspondence have been moved for in the House of Lords, and an inquiry has been set on foot by the Government to ascertain how far the wishes of the Institutions can be carried into effect, without injury to the pictures from the use of gas for lighting the galleries of an evening.

I am, Gentlemen,

Your obedient servant,

P. LE NEVE FOSTER,

*Secretary.*

#### APPENDIX.

The Examiner in Arithmetic says:—"I think there was a marked improvement this year in the papers submitted to me, as regards penmanship and neatness of execution; but I am of opinion that the arithmetical candidates are not equal in power to those of last year. There seems to be a slight falling off in the ability to apply principles to the solution of practical problems. This arises, most likely, from too great attention having been given to merely mechanical work, and a consequent partial neglect of a due investigation of the reasons upon which the various processes in arithmetic are based."

The Examiner in Book-keeping by Double Entry says:—"The great increase in the number of candidates, namely, from 2 in 1856 to 84 in 1859, shews that the importance attached to this subject and to the value of the Society's certificate, is advancing and extending. The average merit of the candidates is also higher and the result of the examination is, upon the whole, satisfactory to me.

"Of the 79 examiners to whom certificates were awarded, all except 10 were young men, upon whose occupations in life the knowledge of book-keeping by double-entry has a direct bearing, the great majority of the 79 being clerks, with a few warehousemen and tradesmen's assistants.

"The remaining 10 include a gentleman's servant, an engine-fitter, a butler, a gardener, and a slate quarryman."

The Examiner in Algebra observes:—"There is a difficulty in the way of pronouncing any absolute opinion as to the average character of the performances of the examinees, arising from the fact of their ages and circumstances being unknown to me: it is obvious that a set of answers of which I might think very little may argue much creditable application, and the contrary. However, looking simply to the papers, I observe that the same general feature pervades them which I noticed last year. That is, very little attention appears to have been given to the principles of the subject, and a good deal to the practical working of algebraic processes. I do not say that this is a fact to be lamented; if the candidates be young it is very desirable that they should be chiefly exercised in Algebra as a practical science, as a

'Universal Arithmetic;' probably also many of the candidates may have been led to study mathematics chiefly with a practical end in view. I may add that I was led by what I observed of the examination last year, to make the paper of the present year considerably more simple. The questions of 1859 were, with a few exceptions, exceedingly simple, but the result has shown that I have not as yet gone too far in that direction. It may possibly be due to this cause, however—the great simplicity of the paper—that I have not had this year so many cases as in the year previous, of candidates who manifested total incompetency. There were two Candidates in the Examination of 1859, who should not (I think) have presented themselves, but there were several more than two in 1858. There were some who acquitted themselves very badly, but who perhaps had sufficient justification for entering the lists. One Candidate as I noticed in my previous report, far outtopped the rest. I do not know his age or his advantages, but certainly his papers were very creditable, and much superior to any produced last year. On the whole I should say that the Examination proves that considerable pains had been taken in teaching the elements of the subject, and that a very useful knowledge of it has been obtained by more than half the Candidates. I will conclude by again remarking that I think the paper of this year was abundantly difficult enough, however simple it may appear to an experienced mathematician."

The Examiner in Geometry and Mensuration reports as follows:—"The papers of 45 candidates were sent to me; of these 37 had sent up answers in pure geometry; 41 sent up answers to mensuration questions; only seven had restricted themselves entirely to mensuration; one had answered the numerical questions and also attempted geometrical problems; 13 out of the whole number had sent in answers to the problems.

"The best original answers were sent in by No. 288, who was third on my list; but those to whom I awarded the two first places came very near him in the merit of their answers to these questions; and had also done far more in the rest of the paper.

"The best answers in Mensuration were sent in by a candidate who did nothing else.

"I think the answers to problems from the 13 who attempted them were very creditable. Eight of the 13 did very well.

"On the whole I am well satisfied with the result. There was not a question in the paper which was not attempted by some candidate or other, and a considerable number of them showed that they had carefully attended to the subject.

"I think the answers on the whole rather better than last years answers."

The Examiner in Trigonometry says:—"With the exception of the Candidate placed in the first-class, the amount of knowledge and ability throughout was very ordinary. This Candidate was really good, but not extraordinary."

The Examiner in Conic Sections, reports:—"The Analytical Conics have been well worked by No. 409—worked intelligently, so that it is clear that he understands the geometrical meaning of the symbols, but does not use them as signs and signs only. This result justifies the recommendation which Mr. Spottiswoode and I last year made to the Society, to include Analytical Conics within the range of subjects in which the Society examines."

The Examiner in Statics, &c., says:—"The general impression conveyed to my mind, as to the merits of the Candidates answering in Mechanics and Hydrostatics was upon the whole very favourable. A few appeared to have acquired only a very rudimentary knowledge of the subject, but sound as far as it went. Others had proceeded not only to a considerable acquaintance with the subject, taken experimentally, but also demonstrated mathematically; while one or two had pursued both lines of study to a very considerable extent."

The Examiner in Practical Mechanics says:—"The general character of the answers which I have received has not been satisfactory, and the Candidates do not appear to possess any extended knowledge of the principles involved in the application of Mechanical Science."

"The Examiner in Electricity, Magnetism, and Heat, has much pleasure in reporting a very satisfactory advancement in the knowledge of these subjects evinced by the Candidates this year. The answers of the two first Candidates are far superior to any previously received; the first especially manifesting a clear and accurate knowledge of almost every branch of the subject touched upon in the Examination Paper. He regrets, on the other hand, to have to notice several inaccuracies in spelling in the papers of one Candidate, and the almost total ignorance of all the subjects displayed by another."

The Examiner in Botany writes:—"I have no remarks of importance to make about the Botanical Candidates, of whom the number was so small. One thing only strikes me as curious; that there should be so few candidates in this subject, considering the large number of well-paid gardeners employed in this country, not to speak of agriculturists. This would give one the idea that their education is at present wholly empirical."

The Examiner in Political and Social Economy says:—"The impression made upon me by the answers to the questions which I had given was not so favourable as it was last year. There was especially a great deficiency in historical and statistical knowledge of subjects connected with political economy, and which supply the best practical illustrations of its principle; such, for instance, as the Navigation Laws, and the proceedings of the celebrated Bullion Committee of 1810. This deficiency, I admit, may be imputed in some degree to the want of suggestiveness, in these respects, in the list of books recommended by us. I would propose, therefore, that we should add to them, *McCulloch's Dictionary of Commerce*, *Porter's Progress of the Nation*, and the *Blue Book of Miscellaneous Statistics*, lately published under the superintendence of Mr. Ponblanque."

The Examiner in Geography reports as follows:—"The total number of candidates' papers that I have inspected (in reference to Geography) is twenty-eight. The result has led me to award three first-class Certificates, seven Certificates of the second-class, and eleven of the third-class; while I reject seven of the number, as coming under the head of "not passed." Bearing in mind the class of society to which the writers of the papers may be assumed to belong, and the limited opportunities of study which they in all probability enjoy, I will not say that—looking at the answers as a whole—I am dissatisfied with the results. The average merit of the papers is equal to that of former years. But I am certainly less satisfied than I could wish to be, and it is mainly in the hope of being useful to future Candidates that I make the subjoined remarks. A clearer conception of the results to be aimed at, and a better knowledge of the method to be found in the task of preparation, would (I feel sure) have been productive of a more satisfactory issue. The chief fault which attaches to by far the greater number of the papers is want of precision. I do not mean precision of expression (for the absence of which every allowance should naturally be made to unpractised writers), but precision of knowledge—which, in the case of Geography, is indispensable, and which is only to be attained by methodical study, with diligent localisation of every fact that is acquired in the course of such study. It is in the elementary parts of the subject—those which involve the precise details of place—that the Candidates exhibit the greatest weakness. The mastery of such detail no doubt requires, on the learner's part, a good deal of hard labour (perhaps of what he may designate as "drudgery")—a kind of labour which I know, by experience, he is too apt to pass by in favour of what may wear a more scientific garb, and may appear to pos-

sess value of a higher order. But the mistake involved in such neglect is fatal to high geographical attainments; for all Geography (even the most scientific chapters of physical geography form no exception to the truth of the remark) is obviously based upon the precise knowledge of place. One or two references to the recent examination will help to illustrate my meaning. Out of 28 Candidates, 22 pass by, without any attempt at answer, question 8 of the "Physical Geography" division of the paper set\*; and of the six answers given, two are failures. Similarly, in regard to question 9 (Physical Geography), only four answers are given, and only one of the number is a really good answer. To question 10 (Physical Geography), only four good answers appear, while fourteen Candidates pass it by altogether. In the division of Descriptive Geography, like results are apparent. The questions which ought to be answered best are too frequently passed over. Ten Candidates pass over No. 1 on the list, and seventeen Candidates pass over the question immediately succeeding. Only six Candidates select question 8 for answer, and only eight attempt answers to questions 9 and 10 on the list. The questions thus generally passed over are those that involve the precise and special detail of place—a kind of knowledge only to be gained by labour methodically employed. It is of course to be expected that where Candidates have the opportunity of selection, they will take the easiest (or what seem to be the easiest) questions, and I find no fault with so natural a proceeding. I only refer to the above instances as illustrating a general truth. The answers given to the questions that are selected display too often the same general fault—a want of precision as to fact, and an attempt at vague and wordy generalisation. This is the obvious result of insufficient and unmethodical study. If I had to give advice to any intending Candidates, I would say, "Be sure that you know the humbler part of geography thoroughly, before you aim at its higher and more scientific truths. Study diligently (even though the mastery of its details may involve not a little hard labour—even of drudgery) some elementary work on the subject, and always with the aid of constant reference to the map." A superficial acquaintance with such matters as the Gulf-stream or the trade-winds (however showy its appearance) will not compensate for the absence of precise knowledge respecting the height and direction of mountain-chains, the courses of rivers, the climate and productions of various lands—the positions of towns and other localities of note, whether commercial or historic. Above all, familiarise yourself with the map of the world, and with that of your own country. By frequent exercise get the great natural features that are embodied in these maps so fixed in your mind as to enable you to sketch the more important of them from memory, with some approach to, at least, general truthfulness. Remember always that it is upon the precise knowledge of place that Geography is based, and to aim at scientific generalisation in the absence of these humbler details, is like the attempt to construct an edifice without securing the necessary foundation. I conclude these observations with the remark that I am able to bestow a high measure of commendation upon the three Candidates to whom I have awarded first-class Certificates, and that many of the papers which rank lower in result yet display an amount of information which is highly praiseworthy."

The Examiner in English History says:—"The general opinion which the examination in English History this year has given me of the Candidates is favourable. Some have answered very well; and nearly all gave proofs of having given considerable attention to historical subjects, and of retaining much historical knowledge in their memory. But a very great number showed by their omissions, as well as by their mistakes, that their reading had not been well-directed and systematic; and that they had neglected to acquire a full and accurate knowledge of

\* All the papers set at the recent Examination will shortly be published in the *Journal*.—Ed. S. of A. J.

TABLE I.—RETURN OF THE NUMBER OF PAPERS WORKED IN EACH SUBJECT, IN THE FOUR YEARS, WITH THE RESULT FOR THE YEAR 1859.

SUBJECTS.	1856.	1857.	1858.	1859.				
				No. of Papers Worked.	No. of First Class Certificates.	No. of Second Class.	No. of Third Class.	No. of Papers in respect to which no Certificates were given.
Mathematics ... ..	27	...	...	...	...	...	...	...
Arithmetic ... ..	...	77	159	232	29	44	73	86
Book-keeping ... ..	...	46	48	84	10	11	58	5
Algebra ... ..	...	58	74	82	2	8	47	25
Geometry ... ..	...	52	53	45	4	13	18	10
Mensuration ... ..	...	42	44	...	...	...	...	...
Trigonometry ... ..	...	25	27	17	1	3	4	9
Conic Sections ... ..	...	14	14	4	1	1	2	...
Navigation, &c. ... ..	...	4	5	...	...	...	...	...
Physics ... ..	...	...	...	...	...	...	...	...
Statics, Hydrostatics, &c. ... ..	...	11	14	17	2	8	7	...
Mechanics ... ..	13	...	...	...	...	...	...	...
Practical Mechanics ... ..	...	9	8	7	...	1	4	2
Magnetism, &c. ... ..	...	9	4	5	2	...	2	1
Astronomy ... ..	...	...	5	...	...	...	...	...
Chemistry ... ..	16	22	13	28	5	11	8	4
Physiology ... ..	6	1	6	2	...	...	2	...
Botany ... ..	2	1	2	2	...	1	1	...
Agriculture ... ..	4	2	0	...	...	...	...	...
Political Economy ... ..	...	6	3	14	1	1	5	7
Geography ... ..	23	28	...	28	3	7	11	7
Descriptive Geography ... ..	...	...	29	...	...	...	...	...
Physical Geography ... ..	...	...	17	...	...	...	...	...
English History ... ..	38	24	43	38	3	10	11	14
English Literature ... ..	17	17	33	30	3	5	16	6
Latin and Roman History ... ..	15	19	12	18	3	5	5	5
French ... ..	17	38	68	87	8	20	22	37
German ... ..	7	15	13	14	1	3	6	4
Drawing ... ..	7	...	...	...	...	...	...	...
Free-hand Drawing ... ..	...	4	37	...	...	...	...	...
Mechanical Drawing ... ..	...	3	34	...	...	...	...	...
English Grammar and Composition	11	...	...	...	...	...	...	...
Music ... ..	...	...	...	12	...	2	6	4
Totals ... ..				766	78	154	308	226

the elementary parts of History before proceeding to its more ambitious portions. I wish very much that our students would bear in mind how much sound learning exceeds showy learning in value. Even with reference to the very limited object of doing well in our examinations they will find this to be true. The student who gives fair answers to the simple set of questions which come first in the Examination Paper, will gain a place though he leaves the more difficult questions at the end of the Paper nearly untouched. On the other hand, the Candidate who shows himself ignorant in elementary matter will be pretty sure to be plucked, notwithstanding his penning a specious essay or two in answer to some of the more difficult interrogatories. I also wish that the Candidates could be taught not to extend their answers beyond the matters as to which they are questioned. Many of them waste their time in writing about things as to which they have not been asked. No marks can be gained by such irrelevant displays, and the time also is never too long for the exigencies of the question."

The Examiner in English Literature reports:—"As this is the first time I have conducted the Examination in English Literature, I can make no comparison between the papers of the present and those of former years. But my impression is, that a fair proportion of the candidates have acquitted themselves with credit. The general re-

sult has certainly not fallen short of the expectation which I had formed. I have not been surprised to find that the prevailing fault shown in the papers, is the want of a sound acquaintance with the text of the books brought up for examination. Most of the Candidates appear to have given way, in a greater or less degree, to the intellectual temptation of reading criticisms, and picking up information respecting the authors, while they ought to have been carefully studying the words of the books themselves."

The Examiner in Latin and Roman History reports as follows:—"The Candidates in general acquitted themselves creditably. Their deficiencies were of two kinds. Those who did the best were deficient in English. Their translations were accurate, or nearly so; but not nearly as good English as they could have been made without at all departing from the letter of the original. The deficiency of the inferior Candidates was chiefly shown in inaccurate parsing. Those who cannot parse can never translate, although it is not an uncommon delusion to fancy that it is possible to reach the sense of a passage by a sort of intuition independent of the grammar. Altogether, however, the work was very fair."

The Examiner in French in reporting says:—"I feel great pleasure in stating that I have on the whole been well pleased with the papers on this occasion, and I have found in them a marked improvement as compared with

TABLE II.—COMPARATIVE RESULTS OF THE EXAMINATIONS OF 1858 AND 1859.

NAME OF LOCAL BOARD.	No. of Candidates Examined at the previous Exm. by Local Board.	No. of Candidates who passed previous Examinations.	No. of Candidates Examined at the Final Examination.	No. of Candidates who passed Final Examination.	No. of Papers worked at Final Examination.	No. of 1st Class Certificates Awarded.	No. of 2nd Class Certificates Awarded.	No. of 3rd Class Certificates Awarded.	No. of Prizes Awarded to Candidates.	No. of Prizes Awarded to Local Boards.	No. of Prizes Awarded to Institutions.	No. of Unsuccessful Candidates.
Aberdeen	1858 1859	1858 1859	1858 1859	1858 1859	1858 1859	1858 1859	1858 1859	1858 1859	1858 1859	1858 1859	1858 1859	1858 1859
Ashbourne, Lit. I.	48	39	32	18	60		4	19				14
Ashbourne, W.M.I.	4	4	4	2	4		2	2				3
Ashford	4	2	2	2	4	2		2				
Bacup												
Banbury	2	4	2	4	4	2		2	2			2
Basingstoke												
* Bedford												
Belfast	18	17	13	7	21		1	7				6
Berkhamstead	10	10	8	6	8		3	3				
Birmingham, I.,	27	22	18	14	22		8	6	1			
"Chance's Lib.	2	14	2	7	1	2	3	1	1	1		4
Blackburn	15	9	5	4	10	7	2	1	3			2
Blandford		6	3	3	5		1	3				4
Bradford, Yorks.	23	14	17	22	16	19	13	6	9	20		1
Brighton, for Sussex.	3	3	3	2	1	4	2	1	1			1
Bristol, Athenæum	11	16	14	9	14	8	12	15	29	3	9	2
Bucks. and Berks.,												
Lecturers' Asso.												
Bury, Athenæum		6	4	4	4			2	2			
Canterbury		3	2	2	1	2		1				
Carlisle		4	4	3	1	3		1				1
Carshalton		2	2	2	2	4	2	3				
Chelmsford		1	1	1	1	1		1				
Dover												
Frome		3	3	3	2	4	1	2				1
Glasgow, M.I.	48	42	41	36	63	8	21	24		1	2	5
" Athenæum	24	24	24	17	29	4	10	7	2			7
" Inst.	4	4	3	2	3			2				1
Greenwich	1	1	1	1	2	1	1					
Halifax, M.I.	35	4	17	4	18	5	3	4	7	4	1	2
" W.M.Coll.	67	25	21	14	15	14	11	12	23	20	1	4
Hanley, "Potteries" }												
M.I. }												
Hartlepool, (West)	5	4	3	4	2	3	5	7	2	3	5	1
Hitchin		2	2	2	2	3		3				
Holbeck, near Leeds												
Holmfirth		1	1	1	1	3		3				
Ipswich	7	10	6	5	4	2	11	6	2	7	6	
Leeds, M.I.	13	5	10	4	22	10	1	6	2	7	2	
" Y.M.C.I.	14	42	14	39	11	29	43	68	5	9	9	2
Leicester, Ch. of E. I.		13	13	13	13	21	5	8	8	6	1	
Lewes	2	2	1	5			2	1				
Liverpool	35	21	35	19	56	29	3	8	4	17	16	16
Lockwood	1	2	1	1	2	2		1		1	2	2
London, Ry. Polytec.	29	20	8	14	11	12	10	4	4	3	13	7
" Crosby Hall	27	35	25	35	24	34	17	25	39	48	11	5
" Domestic Miss.	1	2	2	1	1	3	2		2	1	1	
" Jews & Gene.												
" ral L.I.												
" M.I.	12	10	8	10	6	9	5	8	13	12	4	1
" Tailors' La-												
" bour Agency,												
" L.I.												
" West Brompton	4	4	3	3	6		3	2				
Longton												
Louth	4	3	4	4	2	5	4	1	4	1		1
Lymington	1	1	1	1	5		1	1	3		1	
Lynn, (King's)		3	3	3	3	7		3		1		
Macclesfield	83	83	8	4	12		1	5				4
Manchester, M.I.	32	36	32	24	26	10	21	39	48	3	8	14
" Inst. Assoc'n	591		100	12								5
Middlesborough												
Neath, M.I.												
Newcastle-on-Tyne	3	7	3	7	3	6	5	14		1	2	3
Northowram	1	1	1	1	1	4	3		1	3		1
Paisley		2	2	2	1							
Pembroke Dock	4	5	4	5	4	13	9	1	6	2	6	4
Portsmouth	2	5	2	5	2	13	15	3	2	5	4	3
Richmond, (Surrey)		5	4	4	4	7		1		2	2	1
Salford												
Salisbury	1	1	1	1	4			3				
Selby	10	12	9	9	5	11	15		1	2	8	
Sheerness	1	1										
Sheffield	20	42	18	35	16	32	9	26	23	47	3	2
Skipton		2	2	2	2							
Slough												
Wakefield	4	4	2	4	2	3	2	6	3		2	1
Warminster	1	3	1	1	1	2	1		1		1	
Waterford		25	16	6	2	6		2				4
Wigan	9	5	6	5	5	2	11	6		2	5	2
Windsor												
Wirksworth		3	2	2								2
York	11	7	7	6	5	6	14	6	3	2	2	2
TOTAL	1107	641	501	544	288	480	197	368	516	766	53	112



the preceding years, more particularly with the last; for, whilst I was unable last year out of 68 Candidates to grant a single First-Class Certificate, I have found this year eight Candidates out of 87 worthy of that distinction; my standard of excellence having been raised rather than otherwise."

The Examiner in German says:—"I have no materials at hand by which I could form a decided estimate as to the difference between the work placed before me in the last Examination and that I had to investigate in former years. My impression, however, is that it was decidedly better than that of last year; yet, on the whole, inferior to that of 1867. It does not seem to me that the Local Boards have admitted Candidates for examination in my department who ought to have been rejected."

The Examiner in Animal Physiology says:—"The very small number of Candidates who presented themselves for Examination in Animal Physiology this year precludes the deduction of any general inference from the examination, unless, indeed, what may be gathered from that fact itself. In respect of the knowledge evinced in the answers, whether as to extent or precision, the Examiner is unable to report any advance since the last year."

The Examiner in Music reports:—"I consider the Music Papers very unsatisfactory, both in regard to number and quality. I did not find one fit for admission into the first class, and several I could not class at all. Most of the Candidates would doubtless have done better had they confined their attention to the elementary questions; several of them having evidently attempted the harmony paper without the slightest preparation for it, and apparently without any idea that any such preparation was needed. This result must not be accepted as any evidence of the state of musical power in this country. Musical students are at present more used to have their knowledge tested in practical performance than on paper, and shrink therefore from exclusively theoretical tests."

TABLE III.

THIS TABLE shows the Ages of the 525 Candidates whose Return Papers were received; of these 480 underwent the final examination.

Age.	No. of Candidates.	Age.	No. of Candidates.
16	...	30	...
17	...	31	...
18	...	32	...
19	...	33	...
20	...	34	...
21	...	35	...
22	...	36	...
23	...	37	...
24	...	38	...
25	...	39	...
26	...	41	...
27	...	43	...
28	...	44	...
29	...	47	...

A report of the proceedings of the Conference will be given in the next number of the *Journal*.

### ONE HUNDRED AND FIFTH ANNIVERSARY DINNER.

The One Hundred and Fifth Anniversary Dinner of the Society took place at St. James's Hall, Piccadilly, on Tuesday, the 28th instant. The Right Honourable Lord Napier presided.

Grace having been said by the Rev. Canon GIRDLESTONE,

The CHAIRMAN rose and said—No observations which I am enabled to make could enhance the virtues of our

Sovereign, or stimulate the loyalty and devotion of this assembly. I shall, therefore, without further preface, give you "The health of Her Majesty the Queen."

The toast was drunk with customary honours.

The CHAIRMAN said—I rise to propose the health of His Royal Highness the Prince Consort, the Prince of Wales, and the rest of the Royal Family. When I name H. R. H. the Prince Consort, I allude to one who is endeared to all Englishmen by the virtues which he has constantly displayed in his exalted station, but who has peculiar claims to our gratitude and respect as the President of this Society. Nor is the Presidency of H. R. H. a vain compliment or empty ceremony. The Prince Consort is associated with the Society of Arts by offices of earnest and mutual benevolence, and by a common zeal for every enterprise which can conduce to the moral and industrial prosperity of our country. Referring to H. R. H. the Prince of Wales, I am confident that I utter the sentiments of this assembly when I say that we watch the opening of his bright career with affectionate solicitude, and that from what we already know, we draw the happiest auguries of his future welfare and of our own. I give you, "The health of his Royal Highness the Prince Consort, President of the Society of Arts, the Prince of Wales, and the rest of the Royal Family."

The toast was duly honoured.

The CHAIRMAN said—In rising to address you on this occasion I am sensible of my incapacity for the task which I have undertaken, and I feel that the previous studies and experience of my life cannot enable me to do justice to the momentous questions which have been committed to my treatment. If I be asked, then, why I have accepted the flattering proposal which has been made to me, I answer, because I belong to a profession which has been often unjustly associated with frivolity or artifice, but which when rightly practised and rightly understood, is strictly allied to the weightiest interests of our country, and especially with the welfare of our manufactures and foreign commerce, in which you are so deeply concerned. I could not, therefore, deny myself the honour and advantage of mixing for a moment in this intellectual movement, and of meeting in this eminent position such a numerous and influential assembly of my countrymen. Gentlemen, as I was little prepared by previous knowledge, to recapitulate the proceedings of this Society during the past year, I have been favoured by the Secretary with the perusal of the draft of a report which will shortly be offered to your own inspection. In that document I observe that the Committees and Council of the Society have been occupied with subjects comprising the three great branches of national interest to which you are devoted,—Arts, Manufactures and Commerce. With reference to arts, I find that the attention of the Society has been directed to the momentous question of copyright in works of Art, and though, owing to the interruption of public business contingent on the recent dissolution, the project of law embodying the views of the Society, has not been submitted to the legislature, it is hoped that ere long it will be laid before Parliament. In regard to manufactures, two specialities have been dealt with, the use of gutta percha as a material in our fabrics; and the comparison and improvement of surgical instruments. For the benefit of Commerce, the Society have been endeavouring to draw public attention to the advantages which our colonies afford, whether for the purpose of traffic or settlement; and I make little doubt that when the correspondence which has been entered on with our various colonial possessions has been sufficiently perfected, results will be obtained highly beneficial to the mother country. In the common interests of all the branches of public improvement for which it is formed, the Society has continued its labours for the expansion of its system of examinations; and it has likewise endeavoured to promote the project of an international Exhibition in the year 1861. The results of the Examinations for the past year, will, when printed, prove highly satisfactory to the Society and the public. The design for

another International Exhibition obtained great encouragement from many influential parties, but the aspect of the times has unhappily proved unfavourable to this useful project. The public interest in so great an undertaking could not fail to be checked by the absorbing excitements of the war, and the co-operation of the Continental States would, for the same reason, be materially curtailed. The plan of the Exhibition has been therefore laid aside till a more convenient season. In short, gentlemen, the energies of the Society have, during the past year, been well expended, but even if it were otherwise, and if it were not my duty to report to you any novelty or innovation in the working of your well-ordered system, it would still become you on this festive occasion to consolidate your union and animate your enterprise by reaffirming the great necessities of the nation and the time, and by proclaiming anew the important purposes for which you are embodied. It cannot be too often repeated that more than half the population of the British empire live by arts, manufactures, and commerce—(Hear, hear)—that is, they subsist on the results of skilled labour, or labour directed by speculation, invention, and design, in contradistinction to the simpler forms of industry, still for the most part associated with the culture of the soil, and which are more directly governed by material laws. A vast proportion of the manufactured productions of the British people are exported to foreign countries, where they have to compete with the domestic manufactures of those countries, often guarded by protective tariffs, or with the productions of other states stimulated by commercial rivalry and administrative encouragement. Nor are the resources of the home market to be enjoyed in security or negligence; for though we possess in the unrivalled mineral structure of our soil a broad basis of natural advantages, and though we derive from the thrift and contrivance of our ancestors a noble heritage of accumulated capital and knowledge, yet we can only maintain our superiority by ceaseless vigilance and exertion, and we may not expect any artificial defence by a recurrence to the prohibitive system. (Hear, hear.) The industrial movement of England at home and abroad is therefore one of anxiety and strife, and it is our bounden duty to levy from every department of intellectual inquiry auxiliaries in maintaining and enlarging our present ascendancy. If we be true to the examples of the past and watchful of the present emergencies I would not speak with apprehension of our commercial future. Far from thinking that the universal demand has attained its full proportions, or that British industry has necessarily reached its culminating point, I conceive that the powers of consumption in the world never appeared so capable of indefinite expansion, and that the incalculable activity of another age may revert with curiosity, and perhaps with indulgence, to the respectable efforts of the nineteenth century. (Hear, hear.) Passing over the home demand, which is susceptible of a steady development proportioned to the increasing numbers and wealth of the nation, there is much of an encouraging nature in the prospects of the foreign market, whether we regard those half civilized nations which take off the commodities of common utility, or those communities at a higher stage of culture which afford a market for articles of luxury and beauty. Gentlemen, the ancient and stagnant empires of the East, recently disturbed by our diplomacy and arms, swarm with a population equal to the united numbers of Europe and America. Surely we are justified in expecting that the vehicles of our exchanges with those regions will not long continue to be silver and opium, the former of which owes no portion of its value to the manipulation of the British artisan, while the latter is the creature of monopoly and the cause of demoralisation. (Hear, hear.) It is not enthusiastic to anticipate that when the barriers of traditional prejudice and fiscal exaction are dissolved, the multitudes of China and Japan will gradually unfold an immense market for the ordinary fabrics of Europe. Turkey, Persia, and Central Asia, without any important staple of exportation, and inhabited by a sparse, indigent,

and in part vagrant, population, approximately estimated at forty millions, annually absorb more than seven millions' worth of British manufactures. At the same rate the inhabitants of the remoter East, who must eventually exhibit greater faculties of consumption and exchange, would draw annually sixty millions' worth of goods from Great Britain—an amount equal to more than one half of the produce of the United Kingdom exported abroad. (Hear.) If Brazil be selected as the standard of comparison, a far higher result would be obtained. Add, then, to those portions of Asia but half appreciated and explored the nations of India, Africa, and the Pacific Archipelagos, all of which are, by conquest, commerce, or conversion, being subjugated to European ideas and manners, and the boundaries of our uncivilized market appear to recede into an impenetrable distance. But, gentlemen, the aspirations of the British people, and those which guide the Society which I have the honour to address, are not limited by the grosser conceptions of cheapness and quantity. (Hear.) It must not be alleged that the gracious genius of English industry merely drudges in the service of a barbarous demand. It is our aim to invest the most familiar and useful objects of manufacture with some appropriate charm, and to rival the accredited seats of cultivated labour in the production of articles of a purely decorative and æsthetic character. If the markets of continental Europe be partly closed against us by the existence of older establishments, or by the force of conventional fashion, or by the obstinate impediments of illiberal legislation, we may still find in the new markets of rising states, in those which have been planted by the adventure of our own race on the plains of America and Australia, a fair field and ample scope for the higher departments of invention and design. (Hear.) The discovery of gold has been the chief instrument in the formation of the markets to which I allude, and it will long continue to be the basis of their prosperity. The importance of that discovery is not to be sought so much in the amount added to the circulating medium, or in a general rise of prices, which is precarious, and in part delusive: it is to be found in the sudden dispersion over vacant countries of men furnished with all the faculties and feeling all the necessities of civilization, engaged in a description of labour requiring neither capital nor combination, nor considerable consumption of time, but resulting in the delivery of a commodity which, if it does not directly add to the mass of productive capital, is at least always in the highest demand, and subject to the smallest fluctuations of value. In no other inconceivable form could twenty millions' worth of exchangeable produce have been annually raised with such celerity, and no motive save the intoxicating cupidity belonging to the pursuit of the precious metals could have impelled mankind to such immense migrations. (Hear, hear.) Nor is the consequence of this great movement of the English race to be measured by the mere value of the precious metals now or hereafter collected, for while one portion of the population set on foot by that primary incentive, sift the auriferous soil with increased assiduity, or apply more scientific processes to the reduction of the rock, or carry their insatiable inquisition and predestined power over those desolate empires, escaping from the paralysed grasp of the Spanish colonist; another portion are ever betaking themselves to various kinds of accessory labour, and to the creation of other articles of traffic which, though not in such instant demand, will, in the long run, become a profitable addition to general commerce. If it were compatible with the nature of this occasion to enlarge upon the topics which I have hastily touched, it would not be difficult to show that the wants of other nations and the dissemination of our own are sufficient, if wisely used, to provide abundant employment hereafter for the industrial energies of England. I also humbly think that, whether we regard the government of the country, or the forces spontaneously operating in the ancient and complex frame of our society, there are many causes uniting to afford an intellectual and artistic education to the working orders commensurate to

the task which lies before them. And first, with respect to the action of government and parliament there is now, perhaps, in principle, as much direct intervention as is consistent with the spirit of our free institutions. In the British Museum, at Hampton Court, in the National Gallery, at the Kensington Museum, and in other repositories of national possessions, the historical examples of arts and manufactures are rapidly accumulating, which we hope to see placed in magnificent and instructive combination, and which will then only obtain their full value for imitative and suggestive purposes. In 78 schools of design, cheap instruction is afforded to 79,000 pupils, whereby the poorer classes have the opportunity of discovering and improving gifts of native genius, and although I shall not venture to affirm that our public edifices and monuments recently constructed can be regarded with unqualified approval, we may at least hope that the Government has a poignant sense of past errors, and it has certainly shown a desire by pecuniary rewards and competitive exhibitions to draw the highest talent to the service of the state. Allied with the government of England, or sanctioned by our laws, you find many institutions of a corporate character, which though not designed for the encouragement of arts, must yet, in an intelligent and critical age, by their opulence and associations, become powerful vehicles in fostering the principles of good taste. The Church of England has been a main instrument in the correct and discriminating revival of the mediæval styles. The universities in repairing and enlarging their venerable establishments must have greatly contributed to the same result. Every cathedral should be a seminary for musical, architectural, and sculptural training, and we have seen at Canterbury, Norwich, Ely, and elsewhere, how chapters even may become profitable guardians and stewards of the structures and revenues committed to their charge. The Temple and Lincoln's-inn illustrate the munificence and ability of the legal bodies, while many buildings belonging to banks, municipalities, and railways, prove by their beauty how far our citizens and commercial companies are removed from a sordid economy, and afford a proper theatre for the introduction of new materials and forms, as well as for mechanical adaptations of an ingenious and unprecedented character. Next in order might be enumerated an array of institutions founded and supported for the direct promotion of the sciences, the arts, and manufacturing industry. Foremost in antiquity and glory stands the Royal Society. The Royal Academy, the Arundel Society, the Society of Antiquaries, the Art Union, the Institution of Civil Engineers, and a score of others, have all their zealous adherents and proper spheres of activity, deserving the highest commendation for the value of their inquiries or the beauty of their records. The Society which is assembled round this table may, without disparagement to others, assert peculiar and unexampled features of honour and utility. On the 105th anniversary of its existence it may reflect with pride on its long stability; it can claim as its President the first subject of the realm by his august position, and second to none in earnestness and knowledge—(hear, hear)—many illustrious names and titles have been written on its rolls; but while it is invested with the dignity of the past, it acts with the enthusiasm of the future—(hear, hear)—it has cast open its gates to the people, and become the central figure and the animating spirit of a great industrial confederacy numbering more than 300 members—I allude to the Society's Union of Institutions. (Hear, hear.) Finally, gentlemen, it is certain that neither governments, nor corporations, nor societies, can be profitable agents without a generous, responsive, and critical public. History shows how academies may go on teaching and prating amidst general sterility. There will not be intelligent producers without intelligent purchasers. But the industry of England is nourished from a thousand silent and spontaneous sources. (Hear, hear.) Our treasures are not only laid up in museums, like grain in warehouses; they are also scattered in our homes like good seed in pleasant

and fruitful places. Many do not worship in the public temple who have built domestic altars to the arts. (Cheers.) Consult those quiet habitations of the beautiful and good, how many modest deeds and gentle voices attest the prevalence of a beneficent culture. Such multitudinous though insensible influences are ever conspiring with your disciplined efforts to diffuse a better education below, an education which shall regulate the strong intellect and exalt the quick invention, and fix the bewildered taste, and rear up in England a working class capable of ministering to refined delights, capable, too, of labouring with consciousness and understanding, of sharing a divine satisfaction in beholding and approving their accomplished work. I give you, "Prosperity to the Society for the Encouragement of Arts, Manufactures and Commerce." (The noble lord concluded his address amidst enthusiastic applause.)

The toast was then drunk with great cheering.

Mr. THOMAS WEBSTER, F.R.S., responded to the toast. He congratulated the assembly upon the speech which they had just listened to from their noble chairman. He had attended many anniversaries of this Society, and he said without hesitation—and he was sure they would all respond to it—that such a speech had rarely, if ever, been heard upon occasions like the present. Such a speech, indeed, could not have been conceived and delivered by any one but a man of remarkable attainments and extraordinary opportunities of observation. They were happy in having for their president that evening a descendant of that remarkable man to whom they owed that wondrous system of calculation which had so materially aided the advancement of science and its practical application. Their chairman had had practical experience in that great and mighty republic—that noble institution across the Atlantic, of which no type existed in this country so perfect as this Society. He could, therefore, conceive that such a man was quite competent to the speech which had been delivered on the present occasion—indeed, he regarded his lordship as a worthy representative of this Society, which might be called the great republic of arts, manufactures, and commerce. They must all be proud of the occasion on which they were now assembled; they might well be proud of the successful meetings of the Society, whether at the Crystal Palace or in that beautiful hall—the two structures being mighty emblems of those principles which the Society of Arts had laboured so successfully to establish—triumphs of art which would long be remembered as evidences of the progress of our age. He could not but feel extremely gratified at the review which the noble chairman had given them of the progress already made, and of the future capabilities of this and other countries to further develop arts, manufactures, and commerce. His lordship had shadowed forth the uses of our cathedral establishments in a way that had never entered his (Mr. Webster's) mind before, for he had considered these structures as being appropriated to special occasions and objects; but his lordship had pointed out a different light in which they were to be regarded. He must, however, be permitted to say that in one respect his lordship had scarcely done justice to the Society of Arts; he had spoken of the culture of the soil not so much as a science, but as an occupation which might be carried on successfully by men in a primitive state; but perhaps his lordship was hardly aware how much the Society of Arts had done in advancing the science of agriculture, and in showing that the successful cultivation of the soil was as much dependent upon the skilful and scientific means employed, as any of the numerous branches of our manufactures. There were many other matters in which the Society of Arts had occupied a prominent position, but he would not take up their time by adverting to them. When he saw present such men as Mr. Chance, of Birmingham, and when he reflected what had been done by the repeal of the excise law as regarded glass in connection with the beautiful structures to which

he had alluded; when he saw around him such men as Mr. Mechi, Mr. Fairbairn, and Mr. George Wilson, and when he remembered his friend Mr. Owen Jones, whose refined taste had designed that beautiful hall, all these gentlemen being members of the Society, he felt that such instances might be said to justify the favourable remarks which the noble chairman had made. When they looked to the wonderful expansion that had taken place in the arts and sciences; when they remembered that the Society of Arts was the first to bring before the public attention that remarkable product, gutta percha, and to point out its varied uses and applications; and when they reflected that Sir Charles Pasley, whom he saw near the chairman, was amongst the first who told them what the galvanic battery was capable of doing, and demonstrated, on a small scale, how he could level with a blast the massive cliffs of Dover, he could not but think that that was the shadowing forth of a time when the earth should be encircled by the telegraph wire, and when across the Atlantic the contents of the *Times* should be read, in point of time, some half-hour earlier than they were in this country. These were considerations of which they might well be proud. Knowing what had been the history of the Society of Arts, that it was second in antiquity only to the Royal Society, and regarding the latter as the pioneer of the abstract sciences, and the Society of Arts as the pioneer of the practical sciences, he repeated they might well be proud of the position they occupied. Let them look at the state of things fifty or even twenty-five years ago, and he would say that the Society of Arts had shown to the world the landmarks of the progress which had led to results at which they must all rejoice, and to which he saw no limitation. He believed the destiny of England was—as had been well said by the late member for North Lancashire—the destiny of England was to bring all mankind under broadcloth. With reference, however, to the sentiment of the chairman respecting the prospect of things in the East, he trusted the time was not far distant when those scandalous trades to which allusion had been made, if not altogether extinguished, would be greatly discouraged; for he was quite persuaded that opium and Christianity could not exist together.

Sir THOMAS PHILLIPS said he was deputed to invite the present assembly to drink to the health of the members of the House of Commons, connecting with that toast the name of Mr. William Stirling. The present House of Commons had been called into existence at a time of some perplexity, and it would be difficult for any man to cast its horoscope. For a period of nearly half a century—at least for more than forty years—the House of Commons had had to deal with peaceful questions only,—matters involving the welfare of the inhabitants of this island. It had had to deal through a great part of that time with various questions of reform, alteration of the law, and subjects affecting the social amelioration of the people. It had now, he feared, to deal with subjects of a very much more difficult and perplexing character. The plains of Italy were now devastated by war. Blood had been shed, suffering of no small amount had been produced, and the hoof of the war-horse had been imprinted on those fields where peace and fertility so long had reigned. What might be the lot of England, no one could tell, though it did not become them with bated breath to express the feelings of Englishmen. He apprehended they all felt that the duty of the House of Commons at the present day was to see, at least, that England herself was safe. He had no desire to express suspicion of the good faith of the remarkable man who ruled over a neighbouring country, but England must “to herself be true.” She must depend upon the good faith of no man. She must be prepared to defend herself against all comers, and it did not become the English nation to alternate between overweening confidence and unworthy fear as to the conduct of any foreign power. He felt that they would expect from the House of Commons what-

ever could be done to protect England from injury and aggression. That seemed to be their mission in the present day, and he asked those present to sanction the expression of that opinion when they drank to the health of the House of Commons.

The toast having been duly honoured,

Mr. WILLIAM STIRLING, M.P., could assure them that he felt greatly embarrassed at being called upon to return thanks on behalf of a body for which the most distinguished member might hesitate to make himself responsible. But at a dinner of the Society of Arts the House of Commons perhaps had a right to be remembered. In the press and hurry of public business, it rarely happened that matters of this kind were expounded to that assembly in the eloquent and forcible terms in which the objects and ends of the Society of Arts had been explained by the noble chairman that evening. It was very rarely indeed that eloquence of that nature, even on subjects in which they were all deeply concerned, was addressed to the House of Commons, where unhappily there were some who were careless of, and some few perhaps hostile to, such objects as the Society had in view, but such eloquence was necessary to stimulate their zeal and prompt their generosity; though he thought they would admit that upon the whole, during a long course of years, the House of Commons had not been unmindful of those objects. He therefore ventured to think that, in drinking the health of the House of Commons on this occasion, this great Society had only added one more incentive to them to do that which he was sure the House was willing to do, and in which he was sure they were also fulfilling the desire of their constituents, as they were also fulfilling their duty to the British people—he meant the furtherance and encouragement of arts, manufactures, and commerce. As regarded the other subjects alluded to, he had only lately come from his constituents, and he ventured to say that that portion of the British dominions was unanimous in the desire that peace should be preserved, but that England should be prepared for war. He hoped, therefore, that in the new House of Commons they might look for the carrying out of that policy which Sir Thomas Phillips had placed before them.

Mr. J. P. HENNESSY, M.P., said—The hon. member for Perthshire had told them that the Society of Arts should remember the House of Commons; he ventured to think that the House of Commons should remember the Society of Arts. He would tell them why he thought so. Of all the Societies which had adorned and enlightened this country, no Society had done more for the practical objects which the House of Commons discussed in every session, than this Society had done. It was not alone in arts, manufactures, and commerce, that this Society had set an example to the Legislature. There was another subject intimately connected with them—one of vital importance to England—one often discussed in the House of Commons—and one which this Society had done more to promote than any other body in the country of its kind. He referred to that system of Examinations of which they had heard for the last few years so much, and which, he ventured to think, had done good service in promoting the instruction of the people. Though the Society had been in active operation for more than a century, it was only within the last few years that it had turned its attention to the subject of education as an essential element in the promotion of the great objects for which it was instituted. Within the last few years it had extended its operations, not only throughout London, not alone throughout the county of Middlesex, but into every county of this kingdom. The Society of Arts at the present moment, in every county in England, in the most remote corners of Scotland, and on the other side of the Channel, had numerous institutions in union with it, all of which co-operated, all of which aided it in promoting the great end of public instruction. And he thought he might venture to say that this Society in this respect was unique.

It was the only Society of its kind in Europe which had done so much : and he thought that in this respect it had set an example worthy of being followed by the other countries of Europe. He might mention, as a rather remarkable and interesting fact, that the only similar body which existed in the world as an educational body, was their own educational establishment in Hindostan. In Bengal there existed a great educational institution, which sent out its agents throughout the country, and which had throughout the presidency of Bengal its "Local Boards." It was a remarkable fact that in that portion of her Majesty's empire, the very same system of examination had been adopted. Now this system of examination was one which seemed to him, in spite of all that had been said about it for the last few years, not to have attracted one-tenth of the attention which it deserved. The Institutions throughout this kingdom had been formed by the voluntary association, he might say chiefly of working men. Some of them, it was true, admitted into their rooms men who did not wear the clothes of the workman, but as a general rule these institutions were intended for and used by the working classes. Now, everyone present knew that the great problem of education at the present day was to solve what had been called the collision between the labour market and the school. They had heard men in Parliament and many out of Parliament decrying the present state of things as one which was a disgrace to England. They were told, that instead of their schools being filled with children, the labour market was such a powerful rival to the schools, that it drew from them those who ought to be their legitimate occupants. He ventured to think that that was the best indication that could be given of two things—first, of our commercial greatness ; and secondly, which was more important, of that independent spirit which he hoped we all possessed. If he thought that no educational agency existed by which this apparent defect was to be remedied he would join in an attack against that system ; but he knew that the Society of Arts, through its numerous institutions, by its lectures, by its exhibitions, but, above all, by its system of examinations, was doing that which the schools had failed to do. And he thought he should prove his case by mentioning that at the examination in 1858, upon comparing the results at which the examiners had arrived, the extraordinary fact was elicited that those pupils who had attended school on an average a little over three years, had actually answered better than those who had attended school for more than six years. This being the fact—this being something that there was no denying—it demanded their attention, and the explanation of it had been given very fairly by Mr. Cowper, who some time since presided over the Educational Department of the Government. That gentleman had said that, taking this remarkable fact, it proved this—that they had in England great and powerful agents of secondary instruction. They had their Mechanics' Institutions ; they had their Young Men's Associations ; they had agencies of education, of which he believed this country had felt the value, and of which they ought to be justly proud. He had said that the House of Commons should remember this Society. He thought that the Chancellor of the Exchequer must look with no small interest upon their educational efforts, and on the great results they had achieved. They could tell him this, "We have educated all these young men ; we have held all these Examinations, and we have not asked for one farthing of your money. We have done all this by our own efforts ; and if you wish to pare down the revenue, look to and support those Institutions which are doing so much without any cost whatever to the public. Promote Societies like this—promote Institutions which are doing for England what the House of Commons has long attempted to do. Do that and you will save the public money to a large extent, as well as promote that independent spirit which cannot be too much encouraged."

He might refer to the fact that, on this occasion, they might congratulate themselves that this year these examinations had found their way beyond the Tweed and across the Irish Channel. It was matter of no small gratification for any one interested in this subject to be told that the Institution which had most distinguished itself at the last examination, and which had obtained the largest number of prizes, was a Scotch Institution ; and he was happy also to find that, at the last Examination, Ireland played no small part. He trusted that the public would study this system of examination, and would thoroughly understand that this great net-work of Institutions, which was now spread over the entire country, was above all things that which was worthy of support, and he hoped that this system would be constantly extending year after year, and would become more and more appreciated. He begged to give them a toast which he was sure they would drink with great pleasure, "Prosperity to the Institutions in Union with the Society of Arts."

The toast having been drunk,

The Rev. J. S. Howson returned thanks. He thought no man could perform this duty so efficiently as he could wish to do, after spending on that hot day between six and seven hours in a conference relating to a great variety of subjects, and taking rather an active part in that conference. They had been discussing that day such subjects as these : What arrangements can be made for securing to the poorer and smaller institutions the same advantages which the larger and richer institutions have for some time derived from their connection with this Society ? Again. What advantages may be expected from the continuance of the system of the prizes which have been so munificently given for the encouragement of those young men whose studies you desire to stimulate ? They had also been speaking about the museums, and collections of natural history, and works of art, with a view to the obtaining of admission for the public of an evening, and also how far small museums might be formed in the provinces, and similarly thrown open for the amusement and instruction of the humbler classes, and for the discouragement of their frequenting other places of amusement of a far less satisfactory character. They had even ventured upon the precarious ground of the question of how far Government help might be given to evening classes of the institutions in union on the same terms on which aid had been granted to the evening schools connected with inspected day schools ; and, above all, they had been discussing the duties of the local boards. They had been considering how those duties had been performed, and how far they might be better performed in future. He was glad that they should be able to return to their several localities with the sanction of general approval from the Society of Arts. The duties were said to have been on the whole very well performed ; and he thought he might say on behalf of the various localities that they were really desirous to co-operate with the Society in the great undertaking which it had set on foot for the Improvement of the Education of the Working Classes. He thought the mere enumeration of these subjects established a sufficient claim, on the part of the Society, to the gratitude of the Institutions in Union. He was persuaded that in originating this great system of Examinations they had conferred a very signal benefit ; and if the localities were true to their duty, a very permanent benefit had been conferred upon the country at large. Mr. Hennessy had enlarged upon the importance of these examinations. The influence of examination extended more widely than many persons supposed. They all knew how wisely and well-conducted examinations stimulated talent and rewarded industry ; but he was inclined to think that it very often happened that the unsuccessful candidates in a contest of this kind derived quite as much benefit as those who achieved the highest success. It was no unimportant thing for a young man, and especially for a working man, to put his knowledge into systematic shape, as he must necessarily do if he meant to

submit himself to a searching and impartial test. He thought, as his lordship had observed, this was a project which was for the benefit of all: for they must not forget the social advantages which resulted from the organisation which had been established. How much interest had been thus stirred up on the part of the wealthy for the elevation of the poor—how much time had been thus devoted by those who had leisure, and by many who had very little leisure—for the encouragement of the struggling and the deserving. There was much sympathy excited and kept up between classes too apt to be discordant, and between one locality and another. All those efforts and influences were fostered by this undertaking of the Society of Arts, and he was sure he expressed the feeling of all at that table, and of many who were not present, when he said that the utmost gratitude was due to this ancient Society—to its Council, its Officers, and its Examiners—and he was sure that in the various localities of England they were desirous loyally and heartily to co-operate with the Society in improving, and elevating the education of their famous working men.

Mr. C. WENTWORTH DILKE said at that late hour it was not his intention to detain them for many seconds, it being then about thirteen hours since he commenced duty on that day. But there were one or two small points which he thought had been overlooked by the various speakers who had preceded him. They had naturally enlarged upon the more important duties undertaken by the Society; but there were many—a great many—other matters which it fostered, and in fostering he thought had done a great deal of good. He alluded, in the first place, to the annual Exhibition of Patented Inventions, which, during his almost daily visits to the Society, he found was visited, not merely by loungers, but by persons who took the greatest interest in such matters. Referring to other subjects of minor importance, he could not forget the outcry that was raised from one end of London to the other when the advertisement appeared inviting competition for a premium offered by the Society for a paint box, at the hitherto unprecedented price of one shilling. It was characterised as an absurdity and a folly, and he hardly knew which was to be ruined first—the Society or the trade. The result had been that boxes of excellent colours, and admirable in every sense; had been produced, not by hundreds merely, but the last return showed that the sale of those boxes amounted to 30,000 annually. Take again mathematical instruments, which had been sold in large numbers at half-a-crown per set. A still more extraordinary instance had astonished a great many men of science, who ten or twelve years ago gave as much as fifty guineas for a good microscope. The Society of Arts offered for competition a premium for a microscope which could be purchased for a small sum, and the result was the production of an instrument of great power and beauty, which could be obtained at the price of three guineas, as well as of a smaller one at half-a-guinea. Those were the points upon which they, the workers of the Society, laid great stress, as well as upon the more important subjects that had been alluded to by the preceding speakers. There had been one slight mistake made by the noble chairman. The project for the Exhibition of 1861 was not stopped. Circumstances, over which they had no control, had unhappily produced continental war; but he ventured to say that the proposed Exhibition was simply postponed. He had no hesitation in declaring that but for the war everything was prepared, and success was certain. A guarantee fund to the amount of £250,000 was so far advanced that he felt certain it would have been completed immediately after the list had been made public. Therefore, whenever peace should be happily declared, he trusted that whoever might be in power in the Society—for his term of office expired on the following day—would bring forward this movement again, and that in 1862 or 1863 they would have a Universal Exhibition, which would be equally if not

more successful than that of 1851. He would now come to the pleasing duty which devolved upon him as the organ of the Council, viz., to invite them to drink to the health of the kind and noble gentleman who presided over them that evening. Indeed, he hardly knew whether a vote of thanks ought not to be passed to the Council for having obtained a Chairman who had favoured them with so admirable a speech. He called upon them to drink bumpers to the health of Lord Napier, the Chairman of the evening.

The toast was drunk with prolonged cheering.

The CHAIRMAN rose and said—Gentlemen, I return you my most sincere thanks for the honour you have conferred on me by selecting me as your Chairman, and for the flattering manner in which you have drunk my health. I believe that I have been recommended to your notice by the course which I pursued in my recent mission to the United States. I can possess no other claim to your attention or approval. I fear, gentlemen, that the results of that mission, though they have been alluded to with approbation, must appear of an unsubstantial character. There is, indeed, much in the relations of England and America which is susceptible of improvement by conventional engagements. I need not mention more than these two subjects, commercial reciprocity and international copyright. To those objects my hopes were pointed; but the time was brief, and the circumstances were not auspicious. I had first to clear the field of several miserable matters of asperity and controversy which still encumbered our relations, and to reduce the popular feelings to a cordial and friendly temper. In this preliminary labour some progress, I trust, was made; and it may be that the principles of good-will which I endeavoured to implant will bear practical fruits in the hands of my distinguished successor. Gentlemen, I left the United States certainly with no unhesitating admiration of their institutions—for I have a deep apprehension of the dangers and corruptions to which these institutions are exposed—but with a firm persuasion that in that great republic there is a deep-laid sentiment of attachment and respect for the Mother Country, which, if happily managed and kindly required, would be productive of the most valuable results to both. I left America with a feeling of indelible gratitude for a thousand manifestations of kindness which I there experienced, and with every sympathy for those millions of our kindred working out their destinies on the greatest theatre ever abandoned by Providence to the energies of men. Gentlemen, in whatever duty I may be hereafter employed, I shall carry with me a lively sense of the kindness which I have experienced from the Society of Arts.

## ANNUAL GENERAL MEETING.

WEDNESDAY, JUNE 29, 1859.

The Annual General Meeting for receiving the Council's Report, and the Treasurers' Statement of the Receipts, Payments, and Expenditure during the past year, and also for the Election of Officers, was held on Wednesday, the 29th inst., at 4 p.m. C. Wentworth Dilke, Esq., Chairman of Council, presided.

The Secretary having read the Bye-laws relating to the Annual General Meeting,

The Chairman, in opening the proceedings, said, that by the bye-laws, he was directed to nominate two gentlemen to act as scrutineers of the ballot for the election of officers. He would ask Messrs. Charles Brooke and John Hollingshead to undertake that office.

These gentlemen having consented to act, the



Chairman declared the ballot open. He then called upon the Secretary to read the

#### ANNUAL REPORT.

In accordance with the terms of the Society's Charter and Bye-laws, the Council this day retire from office, and present to the members a report of their proceedings during their year of office.

#### COMMITTEES.

The Gutta Percha Committee has met several times, and is carrying out systematically its experiments. The Committee have had under their consideration the properties of the substance called "Pauchontee," an Indian gum, alluded to in the Council's report of last year as the product of a tree of the same genus as that from which the true gutta percha is produced. This substance has been carefully analysed and experimented upon, and a report as to its nature and properties has been sent, as requested, to the Indian Government. For this report, and the experiments and analyses, the Society are indebted to Mr. Dugald Campbell, one of the members of the Committee. From this report it appears that at the ordinary temperature it is hard and brittle, but upon the addition of heat, such as that caused by friction in a mortar, it becomes sticky and viscid, and when once this condition is reached, it does not after the lapse of several days, assume its original consistence. When boiled with water, it becomes of a reddish brown colour, rendering the water turbid and slightly saponaceous. Experiments were made with a view to compare the properties of the gum with those of gutta percha. For this purpose, the comportment of each, when brought into contact with various chemical reagents in similar conditions, was particularly noticed, and the results are shown in a table accompanying the report. By a careful reference to the table, it may be seen that with some of the reagents, the behaviour of the gum is precisely similar to that of the gutta percha, while with others only a slight similarity is to be observed. Both seem to be nearly soluble in fuming nitric acid, while ordinary nitric acid and dilute nitric acid produce a similar reaction on both. In no one case can there be said to be a decided difference.

Further experiments were made by dissolving similar quantities of gutta percha and gum in equal portions of naphtha and turpentine respectively, and after pouring the solutions from the sediment, allowing them to evaporate at the ordinary temperature of the atmosphere. After standing to evaporate the solvent, the gutta percha in each case had returned to its original condition, while the gum was soft and sticky, except when submitted to a considerable degree of cold, when it became brittle and friable as at first.

From these results it will be seen that the gum alone could not be used for similar purposes to which gutta percha is applied.

Experiments were made in order to ascertain how far the gum could be mixed with gutta percha without interfering to any great extent with the properties of the latter, and mixtures were made containing 5, 10, 20, 30, 40, 50, 60, and 70 per cent. of the gum and gutta percha. From an examination of these mixtures it would appear, that from 20 to 30 per cent. of the gum may be added to the gutta percha without any material difference being noticed in the mixture to the gutta percha alone. But it is necessary to observe, that these mixtures have not been put to the test of sunlight, air, &c., which are known to decay gutta percha more or less, according to the nature of the gutta percha (gutta percha not being a perfectly definite substance) and the time it may be exposed, as their application may have to extend over some years before a result could be obtained of any value.

Specimens of gutta percha alone, and mixed as stated, accompanied the report, to which was appended a valuable table, shewing the results of the various experiments which have been made.

The Surgical Instrument Committee, which had just been appointed and organised at the time of the last report, has commenced its labours; and its various Sub-Committees, into which it has been divided, have prepared a complete Catalogue of the instruments and apparatus employed for the investigation and treatment of disease. This list, drawn up under the direction of the several Sub-Committees, awaits now the formal sanction of the General Committee previous to its being published. Such a Catalogue has long been wanting in the profession.

The Artistic Copyright Committee of last year having made its report, embodying the principles upon which an amendment of the Law of Copyright in Works of Art should be based, as likely to meet the requirements of the public on the one hand and of the artist on the other, it became the duty of the Council at once to endeavour to procure the passing of an Act of Parliament to secure such an amended Law of Copyright. With that view a small Committee, as an executive, over which Sir Charles Eastlake, P.R.A., consented to preside, was appointed, and numerous meetings having been held, a Bill was settled which it was hoped would have been before the Legislature during this Session of Parliament, but the unexpected dissolution of Parliament, and the consequent interruption of business, has prevented the subject from being investigated at present. The Council, however, will still use their best exertions to bring the matter before Parliament at the earliest time possible.

The Council have had under their consideration the best means of rendering the action of the Society available for obtaining and diffusing among the public of this country information in reference to the productions, resources, and capabilities of the Colonies, and with that view a Committee was appointed early in the session to take charge of the subject. That Committee commenced its labours by seeking and obtaining the aid of the Secretary of State for the Colonies to enable the Society more fully to carry out its object. Sir Edward Bulwer Lytton at once consented to give such official assistance as might be required, and, at the request of the Council, called the attention of the Governors of our Colonies to the wishes and objects of the Society as expressed in a letter addressed to Lord Carnarvon, the Under Secretary, in which the Council state that, the best measures for obtaining the object in view would be—

1. That such Colonies as consider that the meetings and proceedings of the Society of Arts would at all serve to give publicity to their resources, and tend to increase the demand for their productions, should select some competent person, or existing Society in the Colony, to frame a complete statement of the points upon which it is considered that the public of the mother-country are not sufficiently informed.

2. That the individual or public body thus selected should at once be put in direct communication with the Society of Arts.

3. That the person or persons thus chosen should also designate, and obtain the consent of, some well-informed person in this country, either himself to read, at an evening meeting of the Society, the paper prepared in the colony, or to confer with the Council as to the best method of securing their common objects.

Further proceedings may be later indicated, or may arise from the steps proposed.

Should any Colony consider that a different course of proceeding would better suit the peculiar circumstances of that Colony, the Society of Arts will be quite prepared to receive such suggestions.

The result has been that several of the Colonies are already in communication with the Society, and more will, no doubt, be added to the list before the Society resumes its meetings in November next, or when a sufficient time has elapsed for replies to be received.

#### EXHIBITION OF 1861.

The Council have now to refer to a subject of great importance, which, during the past year, occupied a large portion of their time—the proposed Exhibition of 1861; and to explain not only why they proposed to hold it, and what success they foresaw for it, but also why they have now postponed it.

It will be in the recollection of the members

that, at the commencement of the past year, the subject of holding a Second International Exhibition was brought before the Council, and that after five meetings—each convened to consider the question—it was resolved, on the evidence that had been then obtained, as well as on the evidence published by the Society in 1849 (when resolutions favourable to the holding of Periodical Exhibitions were first passed), that Periodical Exhibitions would be of benefit to Arts, Manufactures, and Commerce, and ultimately the following resolutions were published by our predecessors in office:—

The Council of the Society of Arts, bearing in mind the part which the Society took in originating the Great Exhibition of 1851, have considered it to be their duty carefully to examine various suggestions for holding an Exhibition in 1861, which have been submitted to them, and have resolved:—

1. That the institution of Decennial Exhibitions in London for the purpose of showing the progress made in Industry and Art during each period of ten years, would tend greatly to the “Encouragement of Arts, Manufactures and Commerce.”

2. That the first of these Exhibitions ought not to be a repetition of the Exhibition of 1851, which must be considered an exceptional event, but should be an Exhibition of works selected for excellence, illustrating especially the progress of Industry and Art, and arranged according to classes, and not countries; and that it should comprehend Music and also Painting, which was excluded in 1851.

3. That Foreigners should be invited to exhibit on the same conditions as British Exhibitors.

4. That the Council will proceed to consider how the foregoing resolutions can be best carried into effect.

P. LE NEVE FOSTER, *Secretary*.

The time consumed in inquiries and discussions had brought the Council so near to the close of their official powers, that all further proceedings necessarily devolved upon their successors.

Early in the following session the subject was brought before the new Council, and this body concurring in the views of their predecessors, resolved that, considering all the circumstances, it appeared desirable to entrust the government of the proposed Exhibition to the Commissioners of 1851. The following letter was therefore, early in December, addressed to her Majesty's Commissioners:—

SIR,—I am instructed by the Council of the Society of Arts to request you to call the attention of her Majesty's Commissioners for the Exhibition of 1851 to the fact that, in February last, the subject of holding a Second International Exhibition of Industry was brought before the Council of the Society of Arts, and that, after five meetings, each specially summoned to consider the subject, and each fully attended, the following resolutions, based on such information as the Council could obtain, were passed. (See resolutions above.)

The Council, after arriving at these conclusions, considered that as more than three years had to elapse before the date of the contemplated Exhibition, it would be well to put forth the resolutions at once, in order that the opinions of the commercial public at large might be the better ascertained. They were accordingly published in April last.

The newly-elected Council of the Society, at their third



meeting in November, having in the interim learnt the feeling of increased numbers of the commercial world, have confirmed the views of their predecessors in office, and further resolved that it would be proper to address themselves to her Majesty's Commissioners who conducted the Exhibition of 1851.

In accordance with this resolution, I am instructed to ask you to bring the subject before her Majesty's Commissioners, and to inform me whether they would be willing to entertain the question of undertaking the management of the Exhibition of 1861.

The Council feel it unnecessary to give any detailed reasons for submitting this application, for it will be obvious that the great success which attended the labours of her Majesty's Commissioners in 1851, and their announcements, when soliciting Public Subscriptions on behalf of the Exhibition, make this application one of the greatest propriety. In the event of her Majesty's Commissioners being prepared to act, I am directed by the Council of the Society of Arts to say they are prepared, as in 1851, to render any assistance in their power to them.

I am, &c.

(Signed) P. LE NEVE FOSTER, *Secretary.*

Edgar A. Bowring, Esq.,  
Secretary to the Commissioners for the Exhibition of 1861.

Her Majesty's Commissioners did not meet until the 19th of February, and the following was the reply to the application of the Council:—

Palace of Westminster, 19th February, 1859.

SIR,—I am directed by Her Majesty's Commissioners for the Exhibition of 1861, to acknowledge the receipt of your letter, transmitting a copy of certain Resolutions passed by the Council of the Society of Arts, on the subject of a proposed International Exhibition to be held in London, in 1861, and inquiring, on behalf of the Council, whether the Commissioners will be willing to entertain the question of themselves undertaking the management of such an Exhibition.

In reply, I am directed to state, for the information of the Council of the Society of Arts, that Her Majesty's Commissioners consider that they could only be justified in complying with this request upon its being made to appear to them, not only that the scheme of the proposed Exhibition meets with the general sympathy and support of the public to an extent sufficient to warrant a reasonable confidence of success, but also that the necessary funds would be at once forthcoming for the purpose of defraying the expenses of the Exhibition until those expenses are met by the receipts derivable from it.

The Society of Arts are aware that the Commissioners have themselves no funds at their disposal applicable to the purposes of the proposed Exhibition, nor have the Commissioners, at the present moment, any information before them on which to found an opinion as to the amount of public support that may be anticipated for the undertaking. In the absence of this information they do not consider themselves in a position to return a positive answer to the inquiry contained in your letter.

Upon being made acquainted with the result of any enquiries on this subject which may be instituted by the Society of Arts, it will give Her Majesty's Commissioners much pleasure to proceed to consider (should that result prove satisfactory) how far it may be in their power to contribute to the success of the Exhibition, and also to determine the position to be taken by them with respect to its management.

I am &c.

(Signed)

EDGAR A. BOWRING.

*Secretary.*

P. Le Neve Foster, Esq.,  
Secretary, Society of Arts.

It will be seen that in this answer stress was laid on two points: first that it was the duty of the Council to satisfy her Majesty's Commissioners that exhibitors were anxious for such an Exhi-

bition; and, secondly, that it was the duty of the Society of Arts to furnish the Commissioners with a guarantee for the entire expenditure. The Council, after full consideration of these points, came to a conclusion different from that of the Commissioners. That such an Exhibition would meet with general sympathy and support, they considered as solved by the results of the Exhibition of 1851, which was announced as the first of a series of Quinquennial Exhibitions; and they felt that if any doubts had subsequently arisen, as might be inferred from the reply of the Commissioners, it would be better for the Commissioners to make such further inquiries as they might deem necessary; and that, in reference to the guarantee fund, it was the province of the Commissioners to initiate it—the Commissioners having, eight years before, received, as the profitable result of the Exhibition of 1851, two hundred thousand pounds, seventy thousand of which had been contributed by the public as a subscription after it had been declared, in February, 1850, that any surplus should be applied "to purposes strictly in connection with the ends of the Exhibition, or for the establishment of similar Exhibitions for the future." The following reply was, therefore, forwarded:—

11th March, 1859.

SIR,—The Council of the Society for the Encouragement of Arts, Manufactures, and Commerce has carefully considered your letter of the 19th February, 1859.

With much satisfaction the Council perceives that her Majesty's Commissioners raise no question as to the beneficial effects of the intended International Exhibition in 1861; but lay down the important conditions that, before they can decide how far it may be in their power to contribute to the success of the Exhibition, and what position they can take in respect of its management, they must be satisfied that it will receive sufficient support, and that means to meet the expenditure will be at once forthcoming.

On both of these points the Council will have much pleasure in doing all in its power to satisfy and to aid the Commissioners.

Looking upon the intended Exhibition as a stimulus to the development of the industrial resources of the country, and to the advancement of science and the arts, the Council is aware that, while H.M. Commissioners cannot take a mere financial view of the undertaking (as if the expectation of pecuniary profits could alone induce them to embark in it), they must not be exposed to a large pecuniary risk or to any serious failure.

To provide means for meeting the expenditure, the Council proposes that a guarantee fund of £250,000 should at once be subscribed for; and it is presumed the Commissioners will regard such a subscription as a sufficient test of the probability of success. To enable the Council, however, to obtain this guarantee, the previous co-operation of the Royal Commissioners appears at present to be indispensable. To make this clear, it is necessary to explain in some detail the position and views of the Society of Arts.

H.M. Commissioners are aware that H.R.H. the President of the Society of Arts, and the other members of the Society, who were the originators of the Great Exhibition of 1851, never contemplated that it should be the last as well as the first International Exhibition of Industry. The beneficial effects of periodical exhibitions in painting, agri-

culture, and horticulture having been proved, it could not have been intended to do no more for general industry than to hold one Industrial Exhibition without successors; and, accordingly, in the letter addressed in 1849, on behalf of the Society of Arts, to H.M. Principal Secretary of State, by H.R.H., the President, applying for the appointment of Royal Commissioners to manage the Exhibition of 1851, it was expressly stated that the Society's object was that quinquennial Exhibitions of Industry should be established. The Society was well aware that any beneficial results which the Exhibition of 1851 might accomplish, could only be fully known when the condition of general industry should be again tested, after a proper interval, by a similar Exhibition; and that, if none such should be held, the good effects of the Exhibition of 1851 would subside and evil would ensue, the stamp of authority having been so fixed by the jurors of 1851 on past improvements as even to create an obstacle to further improvements.

Early in 1858, the Council received suggestions that it was the duty of the Society of Arts to renew the action by which the Society originated the Exhibition of 1851, and to originate a new Exhibition in 1861. The subject was carefully considered by the Council; and the results of its repeated deliberations were expressed in the resolutions which have been submitted to the Royal Commissioners.

Having re-affirmed the conclusions arrived at and published in 1849, that the interests of arts, manufactures, and commerce require international Exhibitions of Industry to be held periodically; and considering, with the experience obtained in 1851, that decennial periods would be more expedient, the Council announced the Exhibition of 1861, in the full conviction that, when it should be satisfactorily settled where, and under what management, the Exhibition was to be held, a guarantee for the expenditure would be easily obtained, as in 1849, and the requisite support would certainly ensue.

The Council, however, has been constantly met by inquiries, on the part of the public, whether the Exhibition will be held at South Kensington, on the land purchased by H.M. Commissioners; whether the Commissioners will manage the Exhibition; and what part they will take in guaranteeing the requisite funds. The public refer to the Royal Commission as appointed, and continued in existence, by her Majesty for purposes strictly analogous to those of the Exhibition now intended, and as having exclusive control, for those purposes, over the large property which has been created with the proceeds of the previous Exhibition; and it will be very difficult indeed to obtain a satisfactory list of guarantors, until replies have been given to those inquiries. If H.M. Commissioners will place the name of the Royal Commission at the head of the list of guarantors, the Council will immediately proceed to complete it.

The Council, though not hitherto in a position to determine absolutely the success of the Exhibition, has done enough by inquiries to satisfy itself that the Exhibition of 1861, managed with the same spirit and intelligence as its great predecessor in 1851, will elicit still more definite and valuable results.

The Council submits to H.M. Commissioners the following general considerations.

Since 1851, commerce has been so extensively developed, not only at home and with the colonies, but with foreign countries, that a knowledge of the productions of other nations has become everywhere a necessary part of mercantile education. In manufactures there have been numberless inventions and improvements. Population and wealth have greatly increased. In the Metropolis alone, in 1861, 500,000 persons will have been added to the population, and 700,000 young persons of 1851 will have become adults. The means and popular habits of locomotion have been immensely extended at home and abroad. In England, the railways have already increased from 6,000 miles in 1851 to 9,000 in 1858; and the railway travellers from 85,000,000 in 1851 to 148,000,000 in 1858. On the continent the increase has been far greater.

The desire to see, and, by seeing, to attain knowledge, coupled with the love of art, has received an extraordinary stimulus in all civilised countries. The same influences will be at work in 1861 as in 1851 to induce manufacturers and inventors to exhibit their productions. Those who are insufficiently known, young and enterprising, will be foremost to meet the competition. Those who are better known and established will not be left behind.

Much will depend on the selection of the site, and on the authority in which the management of the Exhibition is vested. To give proper confidence to guarantors and exhibitors, the undertaking should have a national character, and be carried on under the countenance, if not under the immediate direction, of a constituted authority.

The Council expresses its conviction that, if H.M. Commissioners join in the guarantee, and allow it to be announced that, provided it be completed by a given day, they will hold the Exhibition of 1861 on their own ground at South Kensington, the elements of success will be such that failure will be almost impossible; and the Council feels sure that H.M. Commissioners may have at least as much confidence in the public spirit and intelligence of all classes of the community in 1859 as they had in 1849.

I am, Sir,

Your obedient servant,

P. LE NEVE FOSTER, Secretary.

Edgar A. Bowring, Esq.,  
Secretary to the Commissioners for the Exhibition of 1851.

It will be observed that, though the Council thought it not becoming in the Society to institute the Guarantee Fund, the Council offered, if the Commissioners would initiate it, to undertake to complete it. To that letter the Council have not received a reply, and they have not pressed for one, because at this stage of the negotiation the probabilities of a war between some of the great European States were strengthening, and had raised a question for grave consideration—whether the Exhibition of 1861 ought not to be deferred; and the Council hoped that by postponing action for a short time the aspect of foreign affairs would be so far declared as to leave the Society in a position to judge better what ought to be their future course. The Council therefore, whilst awaiting the issue, ceased to press forward the subject. But though the Council have not received a reply, it is due to the Commission to state that several members of that body have, it is understood, intimated their impression that it would be a proper act on the part of the Commission to affix their seal to such guarantee.

The Council have no doubt that the requisite Guarantee Fund would have been easily obtained. Indeed, no sooner was the subject suggested, than considerable sums were offered. Mr. Matthew Uzielli offered to guarantee £10,000; and some of the members of the Council and their friends authorised the Chairman of Council (a member of the Commission of 1851)—should the Royal Commissioners, at their next meeting, decide on heading the guarantee—at once to append the names of various gentlemen for the sum of £73,000.

Further, the Chairman was authorised to announce to the Commissioners that the directors of one public company had passed a resolution, in-

viting their shareholders to authorise them to subscribe to the guarantee; that the directors of the railways having stations in London had decided not only to offer every facility for the Exhibition, but the directors of one of the largest companies had passed a resolution recommending their shareholders themselves to take part in the guarantee, and the Chairman of Council had been invited to meet the chairmen of the different Boards at a joint meeting, to consider the subject of the guarantee generally. Here it is due to the Marquis of Chandos to express the deep sense the Council feel of the interest his lordship has taken in the subject. It is also highly gratifying to state that, though no formal communication has been made to the Council, the Chairman was privately informed that it was the intention of His Royal Highness the President both of the Society of Arts and of the Commission, to affix his signature to the guarantee; and that the Marquis of Salisbury and Lord Granville intended also to take part in it. The Council have, moreover, reason to believe that a large number of the members of the Society would have been prepared to join so soon as the subject was brought before them; indeed, the Council have no doubt that had an appeal been made to the public, the full guarantee would have been secured within a few days.

A marked difference appears between the names of the supposed guarantors on this and on the occasion of 1851. They now consist principally of persons especially interested in such Exhibitions, and who can best appreciate their importance, value, and influence on Arts, Manufactures, and Commerce.

Reverting to the second point—the question of satisfying the Commissioners as to the want of such an Exhibition—the Council felt that, though it was their duty to aid the Commissioners by making on this occasion, as they did at the time of the former Exhibition, all the preliminary arrangements, yet it would be more appropriate for the Commission itself to undertake such further inquiry as they might think necessary, or, at least, to indicate precisely what they required. But, though the Council hesitated to undertake a general canvass without previous expression of opinion from the Commission, they authorized their Chairman to place in the hands of H.R.H. the President, whenever a meeting of the Commission should be held, the evidence they had obtained. Amongst such proofs would have been the following:—

The Council, feeling that without full support from certain classes of Exhibitors, especially those connected with the Fine Arts, a great void would be perceived in the Exhibition of 1861, determined to ascertain the opinions of those who would exhibit in Class 10, and also of the sculptors in

general. They therefore caused a communication to be made to these two classes, and they had the satisfaction to find that they would be supported by every sculptor residing in London, and that amongst Goldsmiths, Watchmakers, Opticians, Mathematical Instrument Makers, and Musical Instrument Makers, forming Class 10, in the metropolis alone they might count on above 300 Exhibitors. They further ascertained that in Birmingham the leaders of the principal trades were prepared to take part in it. Here was evidence sufficient, it was considered, to justify the Council; but representatives of other classes furnished their contingent and affixed their names as intending Exhibitors; and many foreign Exhibitors, contributors to the Exhibition of 1851, and to that in Paris in 1855, intimated their intention of forwarding specimens of their productions. It was, therefore, with deep regret that the Council saw the political horizon becoming darker and darker still. They felt that, should war be unhappily declared, an International Exhibition could not be held with any reasonable chance of success. At last the actual movement of troops made it necessary to specially consider the subject; and, after meetings held on the 4th and 18th of May, the Council passed the following resolutions:—

That with reference to the present and prospective condition of the Continent, the Council is of opinion that the International Exhibition proposed to be held in 1861 should be postponed to a more favourable opportunity.

That this resolution be communicated to his Royal Highness the President of the Society, and to her Majesty's Commissioners for the Great Exhibition of 1851.

That the Chairman be requested to prepare a report of the proceedings which have been taken by the Council to ensure the success of the intended International Exhibition of 1861, together with an explanation of the grounds on which the Council has come to the conclusion that the Exhibition should be postponed to a more favourable opportunity.

That the Chairman's statement form part of the Annual Report to be laid before the Annual General Meeting on the 29th June next.

These resolutions have been communicated to H.R.H. the President of the Society, and to her Majesty's Commissioners. It was not without long consideration, and even a slight difference of opinion in the Council, that these resolutions were carried. It was felt by some members that it was the duty of the Society, as a body independent of politics, to enter a protest against war being allowed to interfere further than is inevitable with Arts, Manufactures, and Commerce, interrupting thereby the progress of civilisation; and it was urged—and well urged—that, even assuming war to continue, England alone could produce an Exhibition worthy of public patronage. The majority of the Council, however, felt that the public mind was never occupied by two great subjects at once, and that even a partial failure would be more prejudicial to future Exhibitions

than a postponement, and they therefore, though with deep regret, passed the resolutions already read.—The next great International Exhibition stands, therefore, postponed until the earliest favourable opportunity.

#### UNIFORM MUSICAL PITCH.

The Council of the Society of Arts having had brought under their consideration the question of the alteration of the musical pitch by the French Government, and how far such alteration was likely to affect musical performances in England, the Chairman of Council consulted some of the leading musical authorities, and it appearing to be the nearly general wish that a discussion on the subject should take place, the Council invited a considerable number of the principal scientific and musical authorities interested in the question to meet at the Society's house. The meeting was well attended. The Rev. Dr. Whewell presided, and a resolution was unanimously passed by the meeting affirming the desirability of a uniform musical pitch, and a Committee has been formed to consider and report what pitch should be adopted.

#### EXHIBITION OF INVENTIONS.

The Society has held its Eleventh Annual Exhibition of Inventions, to which a largely increased number of articles has been contributed. It has been visited by between six and seven thousand individuals, a larger number than on any previous occasion.

#### CONVERSAZIONI.

Two Conversazioni have been held, one in the Society's House, and one, to which ladies were invited, at the Museum at South Kensington; the latter was attended by 2,800 persons.

#### MEDALS.

The Council, on the recommendation of the Committees, have awarded the following Medals:—

To Messrs. Hamilton and Nash, for an "Improved Lock." *The Society's Silver Medal.*

To Messrs. Peter and Charles Garnett, for their "Toothed-Roller Cotton Gin." *The Society's Silver Medal.*

To Mr. F. Joubert for his invention of "A Method of rendering Engraved Copper Plates capable of producing a greatly increased number of impressions," and for his paper explanatory of it, read before the Society. *The Society's Silver Medal.*

To Mr. E. J. Reed, for his paper read before the Society—"On the Modification which the Ships of the Royal Navy have undergone during the Present Century, in respect of Dimensions, Form, Means of Propulsion, and Powers of Attack and Defence." *The Society's Silver Medal.*

To Monsieur Théophile Silvestre, for his paper read before the Society—"Les Arts, les

Artistes, et L'Industrie en Angleterre, depuis la Dernière Moitié du Dix-Huitième Siècle Jusqu'à ce Jour." *The Society's Silver Medal.*

To Dr. J. Forbes Watson, F.R.S., for his paper read before the Society:—"On the Growth of Cotton in India, its Present State and Future Prospects, with Special Reference to Supplies to Britain." *The Society's Silver Medal.*

To Mr. Leonard Wray, for his paper read before the Society:—"The Culture and Preparation of Cotton in the United States of America, &c." *The Society's Silver Medal.*

To Mr. John Bell, for his paper, read before the Society—"Some remarks on the application of Definite Proportions and the Conic Sections to Architecture, illustrated chiefly by the Obelisk, with some History of that feature of Art." *The Society's Silver Medal.*

#### SWINEY PRIZE.

This year brought with it the third quinquennial anniversary of the death of Dr. Swiney, and the Society, in accordance with the trust imposed on them by the will of that gentleman, have presented the Silver Goblet, of the value of £100, with the gold coin in it, to the same amount, to Dr. Alfred Swayne Taylor, F.R.S., as the author of a treatise on Medical Jurisprudence. The goblet is in silver, from a design by Mr. MacIise, and was awarded at a joint meeting of the Members of the Society of Arts and the College of Physicians, held in accordance with the terms of Dr. Swiney's will, on the 20th of January last.

#### WRITING CASE.

It will be remembered that in the report of last year it was stated that the sum of £20, placed in the hands of the Council by the Rev. F. Trench and J. MacGregor, Esq., to which the Council added the Society's Medal, as a Prize for a Writing Case suited for the use of soldiers, sailors, emigrants, &c., had not been awarded, none of the articles forwarded having been considered to possess sufficient merit to justify a decision in their favour. The Council then announced their attention to invite a further competition. In reply to this announcement twenty-eight cases were sent in, and, after a careful examination by the Committee, they reported in favour of a case manufactured by Messrs. Parkins and Gotto, and the Council have thereupon awarded the Prize of £20 and the Society's Silver Medal to that firm. The retail price of the case is 1s. 6d., including an indelible pencil, but without other contents, which must depend on the selection of the buyer.

#### FINANCIAL ESSAY.

At the date of the Council's last report, the essays sent in competition for the prize of two hundred guineas, placed in the hands of the Council by Mr. Henry Johnson, to be awarded as a prize for

"The best Essay on the present financial position of the country as affected by recent events, in which the principle of a sinking fund should be discussed, and also an investigation made as to the best mode of gradually liquidating the National Debt," were under consideration, twenty-two essays having been received. The prize has since been adjudged to Mr. Edward Capps, and the essay has been published. The adjudicators appointed by the Society to report on the merits of these essays were Professor Charles Neate, of Oxford, Professor Waley, of University College, London, and Mr. J. T. Danson, Fellow of the Statistical Society, and their decision in favour of Mr. Capps was unanimous.

#### MARINE ALGÆ.

The Council in their last report informed the members that no Essays had been sent in to compete for the two prizes of £50 and £20, placed in their hands by Sir W. C. Trevelyan, Bart. That gentleman has now increased the amount to £100, and that sum is now at the disposal of the Council as a single Prize for "The best Essay on the Applications of the Marine Algæ and their products, as food or medicine for man and domestic animals, or for dyeing and other manufacturing purposes. Competitors must give the results of their original investigations on sea-weeds; and they must prepare a series of specimens illustrative of the best modes of collecting, preserving, and preparing the several species. Mere compilations will not be admitted to competition."

The Essays, with accompanying specimens, must be delivered at the Society of Arts by the 31st day of December, 1860. Each Essay to be marked "Essay on Marine Algæ," and to have a motto or distinctive mark attached, which must also be written on a sealed letter containing the name and address of the author.

#### UNION OF INSTITUTIONS.

For the proceedings of this department of our Society, the members are referred to the Secretary's report, read to the meeting of the Representatives in Conference yesterday, published in the present number of the *Journal*, p. 543. In that report will also be found an account of the action which the Society has taken during the past year in reference to the opening of Museums and Galleries of Art in the evening.

#### FINANCES.

The annual statement of the Society's financial position, which has been already published in the Society's *Journal* of last week (See p. 531), according to the provisions of the Bye-laws, forms part of this report.

This statement shows the very satisfactory state of the Society; the annual revenue being in excess of the expenditure by £438 12s. 4d. The liabilities are also less by £300 than this

time last year. The subscriptions received this year have been in excess of those of last year by £200, and the balance in the hands of the bankers available for current expenditure, is slightly larger than that of last year. Since the resuscitation of the Society, no Council have been in a position to place so satisfactory a balance-sheet before the members; while, however, the Society may congratulate itself on the prosperous state of its finances, the members must be reminded that the lease of the present premises has but eight years to run, and the new Council will have to take into their serious and immediate consideration the steps necessary to be taken for providing new premises for the Society's use, at the expiration of that period.

The amount received in aid of the Prize Fund for the successful Candidates at the Examinations has been less than in former years, and the question how far the system of giving Prizes in addition to the Certificates is beneficial, was brought before the Institutions at the Annual Conference yesterday.

The CHAIRMAN called attention to that part of the report which mentioned the short term still remaining unexpired of the Society's lease, and was happy to inform them that the Council had received communications which led them to hope that no difficulty would arise in renewing the lease, supposing it to be decided, after careful consideration, that such a course would be beneficial to the interests of the Society.

Mr. CHARLES BROOKE, F.R.S., moved the adoption of the report, which was seconded by Dr. CHOWNE, and carried unanimously.

Mr. WINKWORTH, Vice. Pres., proposed the following resolution:—

"That the cordial thanks of the Society be tendered to Mr. C. Wentworth Dilke, Chairman of the Council, for the efficient and valuable services he has rendered to the Society during the past year."

Mr. Winkworth said that, as one of the oldest members of the Society, and one who had served many years in the Council, he had had unusual opportunities of observing the manner in which the various gentlemen who had preceded their present chairman had fulfilled the duties of that office, and he could not but say that, without any disparagement to any of them, he had never seen the office so efficiently filled, or so much energy and intelligence brought to bear upon its arduous duties as had been displayed by Mr. Dilke during his term of office. Under these circumstances, he felt peculiar pleasure in proposing the resolution he had just read.

Mr. WILLIAM HAWES begged cordially to second Mr. Winkworth's resolution. The Society had had the advantage for nearly two years of Mr. Dilke's invaluable services, and he only regretted that the bye-laws of the Society precluded his re-election. The singular activity and skill he had shown in promoting the extension of the Society's sphere of operations, combined with the remarkable urbanity and courtesy with which he had presided over their meetings, had earned for him the sincere regard of his colleagues, and entitled him to the lasting gratitude of every member of the Society. He could not but feel that the Council would have great difficulty in the selection of his successor, particularly when he remembered the numerous important subjects which would occupy their attention during the ensuing Session. With reference to the question of the Great International Exhibition, Mr. Dilke's services had been

of the utmost value, and when the subject should again be brought forward, which he trusted would be at no distant date, he hoped to see him reinstated in his present office. For his own part he regretted the decision of the Council as to the proposed Exhibition, for he felt strongly that it was England's duty to utter her protest against war being allowed to interfere more than was absolutely necessary with the purposes of industry and commerce. He thought England should have shown to the world what a noble Exhibition might have been brought together, even without the aid of those nations who chose to waste their energies in warfare and destruction. He begged cordially to second the vote of thanks which had been proposed.

Mr. BROWN, who had represented the Lewes Institution at the recent Conference, wished to bear his testimony to the courtesy which Mr. Dilke had shown on every occasion when members of the Institutions in Union had been brought into contact with him, particularly at the *Conversazione* at the South Kensington Museum.

The resolution was then put by Mr. WINKWORTH to the meeting, and carried unanimously.

The CHAIRMAN expressed the gratification which the vote of thanks had afforded him, and intimated his willingness at all times to serve the Society, either as a member of any of its Committees, or in any other way in which he could be found useful.

Mr. R. WILLIAMS moved a cordial vote of thanks to the Council for their services during the past year.

This having been seconded by Mr. W. C. DUTTON, was carried unanimously.

Mr. HAWES was about to move a vote of thanks to the officers for their services, when it was intimated to him by the Secretary that this course was contrary to custom: Mr. Hawes said that, under these circumstances, he did not desire to establish a precedent, but he might, at the same time, be allowed to express the satisfaction which it had given the Council to observe the cordiality with which the officers had worked together, and the devotion which they had all shown to the service of the Society.

The ballot having remained open one hour, and the scrutineers having reported, the CHAIRMAN declared that the following noblemen and gentlemen had been unanimously elected to fill the several offices. The names in *italics* are those of members who have not, during the past year, filled the offices to which they have been elected.

## COUNCIL.

## PRESIDENT.

H.R.H. THE PRINCE CONSORT, K.G., F.R.S., &c., &c.

## VICE-PRESIDENTS.

<i>Thomas Dyke Acland.</i>	The Earl Granville, K.G., F.R.S.
Lord Ashburton, F.R.S.	Henry Thomas Hope.
W. H. Bodkin.	The Marquis of Lansdowne.
Harry Chester.	John Scott Russell, F.R.S.
Henry Cole, C.B.	Lord Stanley, M.P.
<i>Frank Crossley, M.P.</i>	Robert Stephenson, M.P., F.R.S.
C. Wentworth Dilke.	William Tooke, F.R.S.
<i>John Dillon.</i>	Thomas Twining, Jun., <i>atthew Uzielli.</i>
William Fairbairn, F.R.S.	Thomas Winkworth.
Thomas Graham, F.R.S.	
Master of the Mint.	

## OTHER MEMBERS OF COUNCIL.

<i>Charles Bagnall.</i>	Lieut.-Colonel H. Cunliffe
<i>John Bell.</i>	Owen, R.E., C.B.
Thomas King Chambers, M.D.	Sir Thomas Phillips, F.G.S.
<i>Frank Chance, M.D.</i>	F. R. Sandford.
J. Griffith Frith.	Thomas Sopwith, F.R.S.
<i>John Mac Gregor.</i>	George Fergusson Wilson, F.R.S.
William Hawes.	

## TREASURERS.

*Peter Graham.* | William Mackrell.

## AUDITORS.

*Arthur Lewis.* | Samuel Redgrave.

## SECRETARY.

Peter Le Neve Foster, M.A.

## FINANCIAL OFFICER.

Samuel Thomas Davenport.

At the conclusion of the General Meeting, a Special Meeting, called for the election of members, was held, at which C. Wentworth Dilke, Esq., Chairman of the Council, presided.

The following gentlemen were balloted for and duly elected members of the Society:—

Baker, William	Logie, Cosmo Gordon, M.D.
Bartlett, William E.	Loysel, Edward
Brown, Capt. John H., R.N.	Matthews, James
Cox, Rev. John Edward	Napier, Rt. Hon. Lord
Cox, Thomas	Parkins, William
Cox, William	Price, Arthur
Crookes, Septimus	Ransome, Frederick
Davison, Frederick	Robinson, Rev. W. Woolhouse
Faulding, Joseph	Smith, Archibald
Freake, C. J.	Sowerby, William
Gotto, Henry	Tapling, Thomas
Grantham, John	Wainwright, Henry
Hart, Herbert William	Warne, William
Holden, Edward	Watts, J. J.
Hullah, John	Williams, Charles J., B.D., M.A.
Hunt, A.	
Keeling, Edward Henry	

## HOW MUCH ART SHOULD SCHOOL CHILDREN BE TAUGHT?

A lecture on this subject, on Saturday last, the 11th instant, in the theatre of the South Kensington Museum, was delivered by Dr. G. K. Kinkel, formerly Professor of the History of Art and Civilisation in the University of Bonn. After ably and wittily pointing out the defects of the modern system of attempting to teach drawings from paper patterns, by which many pupils (girls especially) become very successful pattern tracers without acquiring any real knowledge of or love for art, Dr. Kinkel proceeded to unfold, in a few plain, terse, and energetic sentences, the first principles of art study. The plan to be pursued must be to copy from nature, no matter how blotched and scarred the first effort of the pupil. By following this, the only true system, he carries the impression of his work in his soul. It is true that the labour of teaching upon this system is much greater, but the results are incomparably more valuable. Referring more particularly to the audience he was addressing, Dr. Kinkel said they must not forget that their object was not merely to instruct children, but, in so doing, to raise up a class of art workmen. And here, he observed, that strict as was the course of study in the department of practical art enjoined by the Council, he trusted that they would not relax a particle of their rigidity. The pupils must spend so many months upon outline, then advance to shading, next drawing from casts, and finally from nature.

The lecturer made some forcible remarks *à propos* to this subject, upon *dilettanti* students, who, he observed, were generally disgusted with the imposed course of three months' outline drawing and three months' flat washing; their labour in this pursuit, as in most others, however, to be successful must be great and unceasing.

As drawing is now taught from paper patterns, and on the old routine system, a certain dexterity of copying is attained without any love of art, precisely in the same way as young ladies are taught to fire off their "six pieces" of music, to show the progress they have made in that sister art. The result in afterlife is similar, the music pupil never opens her piano, while the drawing student, among the varied scenes to which her life may throw her, never commits the likeness of one of them to paper. It should always be remembered that drawing is a practice more than a science. Do away with paper patterns altogether, but let your young pupils carefully observe the way in which you, the teacher, reduce certain forms; when a figure is seen to rise under the hand of a master, it has a far greater effect than when a pattern drawing is set before the student. The power of imitation, in a greater or less degree, is innate in all human beings, and a knowledge of the elements of proportion is valuable in every walk of life.

In village schools art-teaching should be simple but practical. Teach the pupil to reduce an object in nature to outline, then to shade his drawing. If children are taught in this way they will delight to practise as an amusement, and the love of art will be firmly implanted in their bosoms. The girl will sketch the infant sister she is nursing, and the boy will draw the portrait of his pet cow or donkey, and these familiar objects will give greater delight in their family circle than the best copy of the finest Greek model. This is exactly what the boy Giotto was doing when the great painter found him in the fields—sketching a living lamb with a piece of charcoal. The great collections of art wonders, which in Italy and Belgium are accessible to all, must be replaced in this country by directing the study of the village boy (deprived of the opportunity of visiting the splendid collections of England) to the great fountain-head of art, the contemplation of nature. If ever England is to enjoy the privilege of being an artistic nation in the sense that Italy once was, when every common piece of furniture, every pot and pitcher, was fashioned by the rules of faultless taste—if beauty is ever to bless England with her crowns superadded to those of wealth and might—it will be due to the judicious teaching of art in her simple village schools.

#### VEGETABLE LEATHERS.

The *Mechanics' Magazine* gives the following account of what is being done in this direction:—

"Having seen some specimens of these leathers, as well as various articles of utility manufactured therewith, we have been induced to pay the extensive works of Messrs. Spill and Co., the eminent Government contractors on Stepney-green, a visit, in order to cull sufficient to place upon record the present position of artificial as a substitute for real leather. The face and general character of the vegetable leather resembles the natural product so closely that it is only by actual examination that the difference can be determined. This is more particularly the case in that description which is made for book-binding, the covering of library tables, and like purposes. Amongst other advantages it possesses over leather proper, may be mentioned, that however thin the imitation is, it will not tear without considerable force is exercised, that it resists all damp, and that moisture may be left upon it for any period without injury, consequently, it does not sodden or cockle, is always dry, and its polish is rather increased then diminished by friction. Add to these facts that any attempt to scratch or raise its surface with the nail, or by contact with any ordinary substance, will not abrade it, and enough will have been said to justify its entering the list against an article of daily use, which has of late years been deemed far from sufficient for the demand, and has consequently risen in price to the manifest loss and injury of every class of the community. We believe that the largest entire piece

of real leather that can be cut from a bullock's hide is not more than seven feet by five, and this includes the stomach and other inferior parts. Vegetable leather, on the contrary, is now produced 50 yards in length and 1½ yards wide, every portion being of equal and of any required thickness, and the smallest portion is convertible. We were agreeably disappointed, however, to find that instead of vegetable leather being a discovery requiring the aid of ourselves and contemporaries, it was, although so young, an active agent in the fabrication of numerous articles of daily requirement, and that it had already become the subject of large—indeed, we may say enormous—contracts. Caoutchouc and naphtha are used in its manufacture, but by a process known to the senior of the firm, who is himself an accomplished chemist, all odour is removed from the naphtha, and the smell of vegetable leather is rendered thereby less in strength, if anything, than that of leather. The principal objects to which it is at present applied, although it is obvious it will take a wider range of usefulness than leather itself, are carriage and horse aprons, antigropole, soldiers' belts, buckets which pack flat, harness of every description, book-binding, &c. For the latter, its toughness, washable quality, and resistance to stains render it remarkably fitted. Its thickness, which may be carried to any extent, is obtained by additional backings of linen, &c., cemented with the caoutchouc, and its strength is something marvellous, while in the all-important commercial view, it is but one-third the price of leather. Many of the articles we are shown possessed the appearance of much elegance and finish; but it was curious to observe that although most of these could be made without a stitch, and within the factory itself, a deference to the feelings of the workmen in the several trades has been shown by the firm, and the material is given out as ordinary leather to undergo the process of the needle, which it submits to with a greater facility than its original prototype. Perhaps this concession upon the part of the discoverers is both wise and politic, inasmuch as their object is more to manufacture and supply the article, in the gross to the saddler, &c., than to make it up on their own premises—a monopoly which might become exceedingly formidable and injurious. We think we have glanced, although hastily, at the principal features of this important discovery, and said quite sufficient to raise the curiosity of all interested in the advance and consequent cheapening of our manufactures."

#### Home Correspondence.

##### RELATIVE VALUES OF COAL AND COKE.

SIR,—I leave it to your readers to decide whether there was anything in my letter which appeared in the *Journal* of June 3, to warrant the tone of Mr. Dugald Campbell's letter in the *Journal* of June 10; but, on the part of the non-professional members of the Society, I protest against Mr. Campbell's doctrine that anonymous reviews or comments upon scientific statements openly made should not be allowed. I submit that facts and arguments, and not persons, are the proper subjects of a scientific discussion, and that the true and only rule upon which to act is that all letters, whether anonymous or not, should be allowed a place in the *Journal* which appear to the Secretary to treat any subject which may happen to be under discussion in a fair and proper spirit, while, on the other hand, no letters, whether intended to appear with the writer's signature or anonymously, should be admitted, if they appear to the secretary to be couched in such terms as to be likely to give just cause of offence to any member of the Society. Such, I understand, has been the rule hitherto, and I submit that it should continue to be the rule till some good reason be shown to the contrary.

I.

Edinburgh, June 23.



## Proceedings of Institutions.

**NOTTINGHAM MECHANICS' INSTITUTION.**—The twenty-first annual report of this Institution speaks of indications of steady progression. Notwithstanding the continued unfavourable state of our staple trades, and the large number of persons who are thereby thrown out of employment, there is an increase of members and a diminution of debt—two circumstances which, it is reasonable to suppose, will not be without their proper influence on the minds of those who may be desirous of connecting themselves with the Institution. The alterations made in the library, by which members have unrestricted access to the books, appear to have given general satisfaction. The following statement exhibits the circulation of works:—

Class.	vols.	Issues.	
A, History and Biography . . . . .	969 . .	4,070—increase	19
B, Voyages, Travels, and Geography . .	708 . .	2,584—increase	244
C, Philosophy, Science, and General Literature . . . . .	1534 . .	2,956—decrease	35
D, Miscellaneous . . . . .	486 . .	4 012—decrease	33
E, Poetry and Works of Fiction . . . . .	1401 . .	17,080—increase	3,029
F, Theology and Moral Philosophy . . .	248 . .	789—increase	14
G, Bound Magazines . . . . .	1013 . .	2,340—decrease	90
H, Works in Foreign Languages . . . .	80 . .	257—increase	2
Works of Reference . . . . .	71 . .	118—increase	10
	6510	34,206	
Unbound Parts and Periodicals,		1,840—decrease	435
		36,046	

168 volumes have been added to the library during the year. The Committee also report, in connection with the library, that they have received a valuable donation of books from the Trustees of University College, London. It will be remembered that a penny subscription was collected some years ago, with the view of raising a memorial to the late Sir Robert Peel, and that the amount was invested in the public securities in the names of the above trustees, who are to apply the dividends accruing therefrom to the purchase of books to be presented to Mechanics' Institutions and Public Libraries, or to the purposes of education generally, as they might deem the most advisable. On the announcement that the Trustees would apportion the sum at their disposal to the three Institutions which should substantiate their claim thereto, the Committee immediately laid before them the application of the Nottingham Institution; and, after the lapse of a few weeks, the Committee were informed that the Trustees, out of nearly one hundred applications, had decided in favour of those at Huddersfield, Manchester, and Nottingham. The following works, substantially bound, were accordingly presented, the selection being made by the Committee at Nottingham:—A Treatise on the Steam Engine, by the Artisan Club; Russell on the Properties and Application of Steam; Graham's Elements of Chemistry, 2 vols.; Pott's Euclid; Todhunter's Algebra; Brewster's Life of Newton, 2 vols.; Rankin's Manual of Applied Sciences; Haydn's Dictionary of Dates; Brodie's Psychological Inquiries into the Physical Organisation of the Mental Faculties; Fairbairn on the Application of Cast and Wrought Iron to Building Purposes; Bosworth's Anglo-Saxon Dictionary; Dallas' Elements of Entomology; Tredgold's Carpentry for the Use of Workmen; Atlas of the Society for the Diffusion of Useful Knowledge; and Knapp's Chemical Technology, by Ronalds and Richardson, 4 vols. The only condition accompanying the donation was that of placing a copy of the Memorial Deed, setting forth the circumstances under which the fund was originated, in one of the rooms of the Institution; a condition with which the Committee complied without delay. Several lectures have been delivered, which have yielded a considerable sum to the Institution funds. With regard to the classes, in the French class there are 20 students, the number reported last year being 18; the Discussion Class has 30 members, with an average attendance of about half that number. The subjects which have engaged the attention

of the class are as follow:—"Recent Legislation for the Government of India"—"Emigration"—"Malthus and his Theory of Population"—"Light and Darkness, *versus* Malthus and his Opponents"—"Entomology"—"The Discoveries of Columbus"—"Cardinal Wolsey"—"Oliver Cromwell"—"Robert Burns, his Life and Works"—"The Discovery of America, considered in its bearings on Europe"—"Capital Punishments," &c. The chess class has 30 members, the largest number reported since its commencement. Dr. Robertson has resumed his course of lectures on Theoretical and Practical Chemistry, the delivery of which was interrupted by that gentleman's serious illness, as intimated in last year's report. The Committee have had under consideration, at various meetings, the subject of establishing a Board of Examiners in Nottingham, in connection with the Society of Arts or with one of the Universities. No definite steps, however, as yet have resulted from these deliberations. Since the arrangement entered into between the Committee and the Nottingham Naturalists' Society, the Museum has been visited by 1,700 persons. The proceeds of special and ordinary exhibitions have amounted to £13 5s. 4d., but as the expenses attendant thereon have been £15 11s. 2d., there is a deficiency of £2 5s. 10d. The Society are anxious that the museum should be open to the public every week day, and if a sufficient sum were subscribed to justify such a course, it would be immediately adopted. The members continue to assemble once in the week for conversation on some branch of natural history. The present number of members is 961, being an increase of nine as compared with last year. The balance sheet shows that the balance due to the treasurer has been reduced from £59 4s. 3d. to £39 6s. 6d.; and this, too, with a diminution of £70 in the income.

## MEETINGS FOR THE ENSUING WEEK.

MON. ....Entomological, 8.  
THURS. ... Zoological, 3.  
          Royal Society Club, 6.  
FRI. ....Astronomical, 8.  
SAT. ....Royal Botanic, 3½.

## PATENT LAW AMENDMENT ACT.

APPLICATION FOR PATENTS AND PROTECTION ALLOWED.

[From Gazette, June 24th, 1859.]

Dated 18th March, 1859.

686. F. Potts, Birmingham—A combined metallic support and label for training, supporting, removing, and transplanting flowers or trees, in gardens, or green or hot houses, or for other horticultural purposes.

Dated 31st May, 1859.

1339. W. Smith, 18 and 19, Salisbury-street, Adelphi—Apparatus for raising and docking ships, and other similar purposes. (A com.)

Dated 1st June, 1859.

1350. G. H. Cottam and H. R. Cottam, St. Pancras Iron Works, Old Saint Pancras-road—Imp. in stable fittings.

Dated 6th June, 1859.

1381. T. Hyland, Manchester—Imp. in the manufacture of gum or dextrine, and their compounds from starch.

1383. J. Ferrabee, Phoenix Iron Works, Stroud—Improved machinery for forming bats of fleece or sheet sliver, and also for folding cloth and other fabrics.

Dated 1th June, 1859.

1385. C. Porley, Manchester—Imp. in machinery for preparing to spin, and for spinning cotton and other fibrous materials.

1387. P. Salmon, Glasgow—Imp. in valves for pumps and other uses.

1399. W. H. Dorman, Winchester-house, Old Broad-street, and C. Cowper, 20, Southampton-buildings, Chancery-lane—Imp. in traction and locomotive engines.

1391. J. Greenfield, 8, Spedwell-street, Oxford—Imp. in fastenings for dresses and other like apparel.

1393. F. Muir, Paisley, N. B.—Imp. in ornamental or colour printing.

Dated 5th June, 1859.

1395. C. de Bergue, 9, Dowgate-hill, London—Imp. in machinery for punching and shearing metal. (Partly a com.)

1397. N. Royer, Paris—Imp. in the manufacture of wadded or quilted fabrics, and in their imitation.

1399. C. W. Eddy, Kegworth, Leicestershire—An imp. in reaping machines.

1401. J. E. Ashby, Enfield—Imp. in sights for fire-arms.



*Dated 9th June, 1859.*

1403. G. Bartholomew, Littlethow, N.B.—Imp. in shoes for horses and other animals.  
1404. J. H. Tuck, 34, Great George-street, Westminster—Imp. in breakwaters, sea walls, and like structures.  
1405. E. Welford, Bona, Algeria—Imp. in tanning.

*Dated 10th June, 1859.*

1406. T. Greenshields, 11, Little Titchfield-street, London—Imp. in purifying gas and obtaining ammoniacal and other salts.  
1407. M. J. Haines, Dursley, Gloucestershire—Imp. in the manufacture of driving straps or bands.  
1408. G. J. Farmer, Hampton-street, Birmingham, and G. B. Hardy, Alexander-place, Brompton, Middlesex—Imp. in stair rods and eyes or sockets, which are also applicable for other purposes.  
1409. A. F. Haas, Camomile street, London—Imp. in lamp and gas shades or glasses.  
1410. F. Puls, Roxburgh-terrace, Haverstock-hill—Imp. in the treatment of hydrocarbons.  
1411. S. W. Tyler, Greenwich, New York—Imp. in harvesters.  
1412. W. Sellers, Philadelphia—Imp. in ovens for baking bread or other substances, which improvements are also applicable for drying, annealing, and other analogous purposes.  
1413. M. H. Picciotto, Finsbury-circus—Imp. in apparatus for producing or obtaining motive power.

*Dated 11th June, 1859.*

1414. W. Donbarand and D. Crichton, Manchester—Imp. in looms for weaving.  
1415. J. James, Broadwall, Lambeth—Imp. in obtaining and applying motive power.  
1416. F. Palling, Esher-street, Lambeth—Imp. in the construction of lamps for the purpose of burning tallow, grease or oils, either singly or in combination.  
1417. T. F. Henley, Denbigh-street, Plimlico—Imp. in obtaining alcohol or spirit from rice and other grain, and in apparatus for that purpose.  
1418. H. J. Nicoll, 114 to 120, Regent-street—Imp. in trousers.  
1419. A. V. Newton, 66, Chancery-lane—An imp. in fire-arms. (A com.)  
1420. F. A. R. de Beauregard, Paris—Certain imp. in generating steam, and in apparatus for obtaining power and in generating steam for other purposes.  
1421. G. C. Ash, West View, Hampstead—Imp. in the manufacture of artificial teeth.

*Dated 13th June, 1859.*

1422. B. Baugh, Salt's Patent Enamel Works, Bradford-street, Birmingham—Certain imp. in apparatus or machinery for raising metals.  
1423. H. L. Corlett, Inchicore, Dublin—Imp. in rails, and the permanent way of railways, part of such improvements being applicable to common roads.  
1424. O. Maggs, Bourton, Dorsetshire—Imp. in washing machines.  
1425. A. Smith, 4, Stafford-terrace, Loughborough-road, Brixton—Imp. in bleaching and purifying bees' wax.  
1426. C. N. Kottula, Liverpool—A means of cleansing or purifying the Thames.  
1427. J. T. Smets, Plagamen, France—Imp. in the manufacture of vinegar from grain and other vegetable products containing saccharine matter, and from a refuse product obtained in the manufacture of starch, also in apparatuses employed therein.  
1428. A. V. Newton, 66, Chancery-lane—Imp. in the fitting of life and other boats. (A com.)  
1429. W. E. Newton, 66, Chancery-lane—Imp. in the manufacture of piled fabrics, and in the machinery employed in such manufacture. (A com.)

*Dated 14th June, 1859.*

1430. G. Smith, Manor-road, St. Mary's, Newington—Imp. in hatbands.  
1431. W. Brown, jun., and S. Bathgate, Selkirk, N.B.—Imp. in machinery or apparatus for carding and treating or preparing fibrous materials.  
1432. J. Dixon, Bishopwearmouth, Durham—Imp. in puddling steel.  
1433. J. Cowan, Barnes, Surrey—An improved soap.  
1434. J. Wansbrough, Bridge street, Southwark-bridge, and A. Bain, Clerkenwell-green—Imp. in effecting communications between parts of railway trains.  
1435. A. MacDonald, Manchester—Certain imp. in machinery or apparatus for punching patterns or devices upon metallic printing rollers or cylinders.

*Dated 15th June, 1859.*

1436. E. J. Maumens and V. Rogelet, Reims, France—Using the "suint," or the portion soluble in water of the greasy substance found on the skin and hair of sheep, for the purpose of manufacturing potash and other products.  
1437. A. V. Newton, 66, Chancery-lane—Imp. in the manufacture of polishing wheels, sticks, and tools. (A com.)

*Dated 16th June, 1859.*

1439. J. Taylor, Aberdeen—Imp. in planes or cutting tools for working in wood.  
1440. S. Levy, Manchester—Imp. in hats, caps, or coverings for the head.  
1441. E. T. Hughes, 123, Chancery-lane—An improved night lamp clock. (A com.)  
1442. J. Luis, 1b, Welbeck-street, Cavendish square—A new siphon meter for liquids. (A com.)  
1443. J. Luis, 1a, Welbeck-street, Cavendish square—An apparatus for regulating individually the pressure, expenditure, and light in gas burners. (A com.)

1445. W. Birkmyre, Port Glasgow, Renfrewshire, N.B.—Imp. in drying, treating, and preparing yarns or thread.  
1447. C. H. Waring, Neath Abbey, Glamorganshire—Imp. in safety lamps.

1448. C. Wilkinson, Slaithwaite, Yorkshire—Imp. in doubling or twisting silk, cotton, worsted, linen, or woollen yarns, or yarns from any other fibrous substance.  
1449. T. E. Tallent, Southwark-bridge-road—Imp. in the manufacture of leather, and in machinery for that purpose.  
1452. H. F. Smith, 4, Dale-street, Manchester—Imp. in the manufacture of driving straps or bands.  
1454. A. V. Newton, 66, Chancery-lane—Imp. in casting cylinders and tubes. (A com.)  
1455. J. Harmer, Wellington-villas, Brighton, and W. Parsons, Scotland-street, Brighton—Imp. in fire-arms.  
1456. T. Cattell, 30, Euston-square—Imp. in the manufacture of varnish and lacker.

*Dated 17th June, 1859.*

1457. T. Orrell, jun., Mill-hill, Bolton-le-Moors, Lancashire—Certain imp. in mules for spinning.  
1458. H. Evette, Lisieux, France—A new system of bedding.  
1459. E. T. Hughes, 123, Chancery-lane—Imp. in treating and decomposing fatty substances. (A com.)  
1460. W. H. Hammersley, Leek, Staffordshire—Imp. in stringing, glossing, or finishing silk, and apparatus employed therein. (A com.)  
1461. D. Deas, Carnell, Fife, N.B.—Imp. in reaping machines.  
1462. R. A. Brooman, 166, Fleet-street—Imp. in generating anhydrous steam, and in apparatuses employed therein and connected therewith. (A com.)  
1463. C. F. Vasserot, 45, Essex-street, Strand—Imp. in the construction of stereoscopes. (A com.)  
1464. J. J. L. Guiblet, 11, Wilmington-square, Clerkenwell—Imp. in watches.  
1465. A. V. Newton, 66, Chancery-lane—Improved means for assorting substances of different specific gravities. (A com.)  
1466. J. Combe and R. Smalpage, Leeds—Imp. in winding and spinning machinery, and in arranging and securing a water-tight delivery from cops, to be used as weft or warp, or for other purposes.

#### WEEKLY LIST OF PATENTS SEALED.

[From Gazette, June 24th, 1859.]

- |  |                                  |
|--|----------------------------------|
| June 24th.                                     | 70. W. E. Newton.                |
| 2939. J. T. P. Newbon, T. Smith, and J. Brown. | 77. J. White.                    |
| 2945. D. Edleston.                             | 91. W. Bray and W. T. G. Bray.   |
| 2952. W. B. Johnson.                           | 108. H. Critchley and S. Elston. |
| 2955. T. Steven and T. Scott.                  | 129. W. H. E. McKnight.          |
| 2959. J. Macpherson.                           | 139. P. A. de Saint S. Sicaud.   |
| 2960. J. Davies.                               | 142. E. Brooks.                  |
| 2962. F. W. Turner.                            | 167. J. H. Johnson.              |
| 2965. B. Browne.                               | 291. D. Moseley.                 |
| 2971. J. H. Johnson.                           | 367. J. H. Johnson.              |
| 2999. J. H. Johnson.                           | 518. F. Weeks.                   |
| 3006. H. Robia.                                | 715. G. Gregg.                   |
| 1. J. T. Pitman.                               | 757. J. H. Johnson.              |
| 7. J. Oliver.                                  | 1003. J. Alkon.                  |
| 23. J. B. Morgan.                              | 1016. J. Armstrong.              |
| 24. J. Luis.                                   | 1074. A. Boyle.                  |

[From Gazette, June 28th, 1859.]

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| June 28th.                              | 145. R. Muesel.                               |
| 2976. R. D. Kay.                        | 175. T. Greenwood & J. Batley.                |
| 2989. R. A. Brooman.                    | 178. T. Greenwood, J. Batley, and J. Dockray. |
| 2990. R. A. Brooman.                    | 192. H. Sagar and A. Schultz.                 |
| 2991. R. A. Brooman.                    | 183. T. Richardson.                           |
| 2992. R. A. Brooman.                    | 193. J. Childs.                               |
| 2991. W. Burgess.                       | 223. J. H. Johnson.                           |
| 2996. J. Knowelden and R. D. Edwards.   | 262. H. Watson.                               |
| 3005. F. W. A. Casper and G. H. Schmah. | 269. H. Grissell.                             |
| 3006. L. A. Normandy, jun.              | 295. W. E. Newton.                            |
| 4. B. J. Gosteau.                       | 509. A. Reid and R. Tonge.                    |
| 5. J. E. Drouot.                        | 845. D. B. White.                             |
| 9. J. Garforth.                         | 951. H. A. Silver.                            |
| 14. M. Wigzell.                         | 986. H. Rawson.                               |
| 22. A. L. Lévêque.                      | 1073. W. A. Tompason.                         |
| 61. J. Biers, jun.                      | 1119. W. E. Newton.                           |
| 98. W. McNaught and W. McNaught.        |   |

PATENTS ON WHICH THE STAMP DUTY OF £50 HAS BEEN PAID.

[From Gazette, June 24th, 1859.]

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|------------------|---------------------|
| June 20th.       | 1529. T. F. Henley. |
| 1471. G. Riley.  | June 22nd.          |
| 1513. A. Shanks. | 1501. G. Durrick.   |
| June 21st.       |                     |
| 1468. G. Gurney. |                     |

[From Gazette, June 28th, 1859.]

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|--------------------------------|-------------------------------------|
| June 23rd.                     | June 24th.                          |
| 1477. E. Harston and J. Henry. | 1495. R. W. Chandler and T. Oliver. |
| 1526. C. A. Messenger-Abt.     |                                     |